Volunteer Firemen

SEPTEMBER 1945

NATIONAL FIRE PROTECTION ASSOCIATION
INTERNATIONAL
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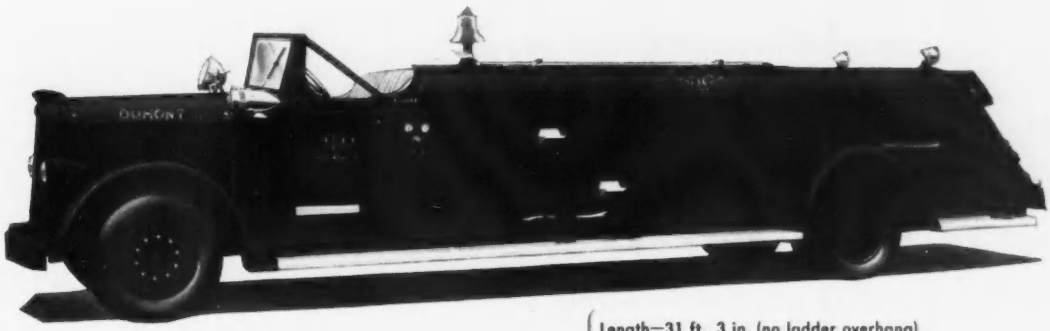

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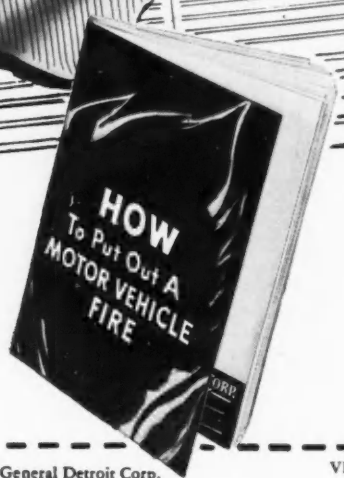

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Volunteer Firemen

VOLUME 12 NUMBER 9

WARREN Y. KIMBALL EDITOR
ANNE BAILEY ASSOCIATE EDITOR
CHARLES S. MORGAN ADVERTISING MANAGER

PUBLISHED
NATIONAL FIRE PROTECTION ASSOCIATION
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THE cover picture this month shows what is undoubtedly the fire of the year, as far as public interest is concerned. It is almost the proverbial paradox of the collision between the immovable object and the irresistible force, but with total destruction of the irresistible force and major damage to the immovable structure. While this occurrence took place in the world's largest city and involved the world's tallest structure, it should cause every fire department to contemplate the possibilities inherent between collision of aircraft and prominent buildings in their own community. Such buildings, while obviously not as tall as the Empire State Building, are correspondingly less able to resist such impact and probably less well provided with internal fire defense. A plane crashing into a large mercantile or office structure in the average small community would cause a holocaust with loss of life easily equaling that of the New York tragedy.

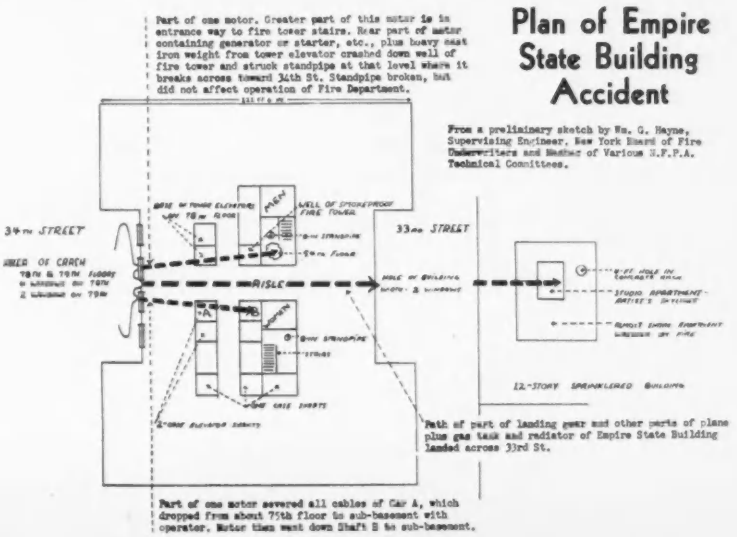
Unless fire departments can say that they have prepared themselves for such emergency action by studying special techniques involved in airplane crash fire fighting, they may have much to answer for to their public. Airplane crash fires involve special fire fighting problems, such as flammable liquid fires, rescue operations, conflagration conditions, and many other factors requiring simultaneous attention. Ordinary fire fighting techniques, unless modified and coordinated under such emergency conditions and unless well thought out in advance, may prove insufficient.

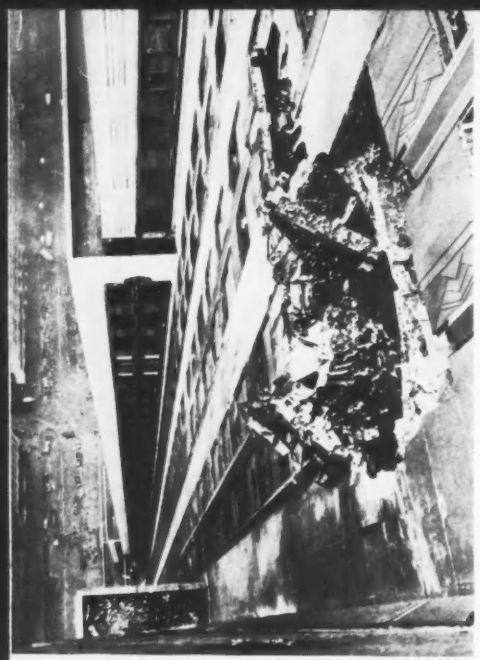
Any person who through motion pictures has seen the devastating fires wrought by Kamikaze pilots should be forewarned of the potential danger brooding above our heads daily as the giant planes, loaded with as much gasoline as a tank truck or railroad tank car contains, pass overhead. Now that a medium size plane has wrought such destruction and loss of life in the world's most noted office building, let no community say it has not had due warning to prepare for perhaps more serious disasters.

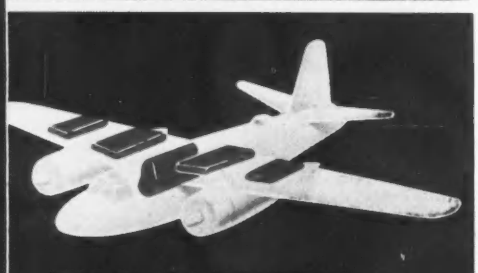
Aside from the responsibility of the fire department to prepare for airplane crash fire fighting; federal, state, and local officials have responsibility to insist that air traffic rules be rigidly observed to provide adequate safeguard against further disaster in congested areas. The following quotation from the *Boston Globe* probably expresses the thought of most communities pondering the problems of safety from air accidents.

"There is too much flying over highly congested city areas, both by service planes and in civil aviation. Undoubtedly some of this is necessary and unavoidable, but much of it is neither. The time required for detour to the edges of metropolitan areas, in flying, is almost negligible. Enforcement of regulations, both civil and military, with respect to safety ceilings over such regions should be as drastic as human effort can make it.

"Before us lies an air age which promises to multiply planes on lawful errands of peace, somewhat as the automobile has multiplied in its long and steady rise to popularity and common use. The time to adjust flying arrangements and standardize flying practices in respect to cities and towns is now. Evidently there remains much to be done."


Plan of Empire State Building Accident
From a preliminary sketch by Wm. G. Hayne, Supervising Engineer, New York Board of Fire Underwriters and Member of Various N.F.P.A. Technical Committees.
Part of one motor. Greater part of this motor is in entrance way to fire tower stairs. Rear part of motor containing generator or starter, etc., plus heavy cast iron weight from tower elevator crashed down well of fire tower and struck standpipe at that level where it breaks across toward 34th St. Standpipe broken, but did not affect operation of Fire Department.
34th STREET
33rd STREET
AISLE
12-STORY SPRINKLERED BUILDING
Path of part of landing gear and other parts of plane plus gas tank and radiator of Empire State Building landed across 33rd St.
Part of one motor severed all cables of Car A, which dropped from about 75th floor to sub-basement with operator. Motor then went down Shaft B to sub-basement.





MEDIUM BOMBER
1400 GALLONS INCLUDING BOMB BAY TANKS

WORLD'S TALLEST FIRE

SKYSCRAPERS which pierce the clouds of Manhatten have been one of the marvels of the modern world. Such structures are built with all the stability that can be obtained through modern engineering and structural methods. Not only are they built of fire resistant materials, but they incorporate extensive internal fire fighting facilities. When the world's highest structure, New York's Empire State Building, was erected in 1931, modern bombing craft were unknown, but recognition was given to the coming age of aviation by the inclusion of a 200-foot dirigible mooring mast at the crown of a 1,248-foot tall structure.

Saturday morning, July 28, was rather foggy in New York. A B-25 two-engine medium bomber, in contact with La-Guardia Field by radio, disregarded advice to land at LaGuardia and started for Newark airport. The CAA regulation specifying a 2,000-foot minimum altitude for Manhatten was disregarded, as such safeguards are all too frequently ignored by military fliers. The existing visibility of two and one-half miles through the mist was actually "contact visibility" for the bombing plane; as it provided perhaps 45 seconds' apprehension of objects, at a cruising speed of 250 m.p.h.

At 9:45 A.M. the bomber loomed out of the fog and crashed with terrifying impact into the north wall of the towering building, ripping a hole eighteen feet wide by twenty feet high in the exterior wall at the 78th and 79th floors. Flames shot as high as the observatory on the 86th floor illuminating the tower by the glare. Part of the landing gear, what appeared to have been a gasoline tank, and a radiator from the Empire State Building hurtled across the 78th floor, exited through the south wall, plummeting to the roof of a 12-story building across the street, starting a fire which caused $75,000 damage in the penthouse apartment of Henry Hering, noted sculptor.

Motors and parts of the landing gear crashed into an elevator shaft and fell to the sub-basement. Other sections of the fuselage were thrown as high as the 86th floor observatory. Torrents of flaming gasoline from the 1,400-gallon tanks, which fortunately were only partly full, cascaded through the 78th and 79th floors, burning all combustible trim and killing or injuring all occupants of those floors in the holocaust. Burning fuel extended down stair wells as far as the 75th floor and persons on upper floors were isolated by smoke and flame. Most of the civilian casualties consisted of the Saturday morning "skeleton" shift in the War Relief Service of the Catholic Welfare Conference on the 79th floor. On any other weekday vastly greater numbers of persons would have been in the building and it is also fortunate that a considerable part of the area involved in the crash fire consisted of vacant or storage sections. The total casualties were placed at 13 dead and 26 injured. Several of the injured had terrifying drops 80 floors to the sub-basement when the elevators were released by the snapping cables.

The building was well equipped to resist fire and apparently withstood the "Kamikaze impact" of the bomber with relatively little damage to the 56,000-ton structural framework although over $500,000 damage was done to the building by the crash and fire. Fire Commissioner Patrick Walsh is quoted as saying that the fire fighting presented relatively little difficulty once firemen had trudged up the stairs from the 60th floor, which was as far as elevators could take them. Four alarms, sounded within eight minutes, reportedly brought twenty-three fire companies and over forty pieces of apparatus. The flames which engulfed the 78th and 79th floors were controlled in forty minutes by streams connected to the 8-inch building standpipes which fortunately were not damaged by the crash. What the results might have been had the offending plane been a B-29 with more than 8,000 gallons of gasoline and vastly more impact force is frightening to imagine, as the shearing off or collapse of heavy portions of the towering structure could have brought disaster almost unimagined during the apprehension over possible blitz conditions early in the war. As it was, this crash fire at an elevation of 913 feet above the street was not only the highest fire ever to occur in a building, but it was a fire involving large quantities of gasoline and other flammable liquids.

The internal protection in the Empire State Building will be of some interest to fire fighters. There were five 8-inch standpipe risers, totaling 7,340 feet of pipe with two risers extending upward to the 83d floor. There were six miles of 2½-inch hose connected to the standpipe outlets, but the fire department, of course, preferred to carry up and use its own hose. In the sub-basement was a 750 g.p.m. fire pump with similar pumps at the 20th, 41st, and 62d floors. A 280 g.p.m. pump was installed on the 85th floor. Water supply tanks with the following capacities reserved for fire service were provided: sub-basement, 10,000 gallons; 21st floor, 5,000 gallons; 42d

Continued on page 8

Fire Prevention Week — 52 weeks of the year

THE proper spirit for a far-reaching Fire Prevention Week program is the enforcement of the idea that the fire safety measures hailed and proclaimed during the week of October 9 should be exploited, not for seven intensive days, but all year round. Your department should keep fire prevention in the public eye from one October 9 until the next, by such means as building inspections, checking places of public assembly, house-to-house canvasses, and fire drills in the schools, conducted by the fire department.

According to reports by members, this is general practice for 75 per cent of the companies of the N.F.P.A. Volunteer Firemen's Section. Perhaps examples of their activity will suggest similar application on the part of other departments.

The guiding idea behind a year-round fire prevention week should be, as the Edmond Fire Department, Oklahoma, stated on their report sheet, "A continuous fire prevention program." The human race is naturally forgetful. One week of posters, lectures, fire department acrobatics, and inspections causes a lot of excitement and interest. But how long does the impression last in the minds of those whom your department protects?

In Pennsauken Township, New Jersey, the Delaware Gardens Fire Company distributes fire prevention material during the year as a periodic reminder that the company stands ready to serve, but that the citizen has a hazard-eliminating part to contribute. The Trilby Volunteer Fire Department, West Toledo, Ohio, also conducts a house-to-house canvassing program. Taking advantage of the Firemen's Ball, a calendar with special instructions on how to call the fire department is passed out, whether the approachee buys a ticket to the dance or not, said Trilby's chief, Eldon LaFollette.

Chief Harry A. Doyle, of the Canfield Volunteer Fire Department, Ohio, closed his report with the expression, "Fire fighting and fire prevention is the hobby of each member of our department." At Wood River, Illinois, fire prevention activities and programs occupy most of the Wood River Department's small amount of spare time. Also in Illinois, the Northlake Volunteer Fire Department, at Melrose Park, participates in a year-round fire prevention program. These are the progressive attitudes of departments and companies realizing the need for a constant alertness in fire prevention.

On page 9 of this issue of VOLUNTEER FIREMEN appears an article entitled "Planning Your Fire Prevention Week Inspection." This is an important job, or should be, for every fire department, for the men should be familiar with the construction and floor plan of every major building in their territory.

From New Jersey, the Enterprise Volunteer Fire Company and the Hamilton Fire Company, Inc., of Trenton, follow this planned-attack procedure. Chief E. C. Skimmons reported that "All factories and business establishments are inspected by the chief with other officers of the line, so that they may get familiar in sizing up each one. They then give a report to the other members as to condition."

Other departments conducting periodic inspections include the Morrisville Fire Department, New York. This department stressed the inspection of commercial buildings. Chief C. W. Brennan, of the Chanute Fire Department, Neosho County, Kansas, said, "We believe that our inspection of buildings is one of the best methods of fire prevention, as it has saved us many a call and cut our losses. It also has the business men calling for information over small things." From Lawrence Volunteer Fire Department, Marion County, Indiana, "We have periodic inspection of all businesses and residences in our territory and have a full program of fire prevention." City inspection in the business district occupies the spare time of the Iowa Falls Fire Department, Iowa.

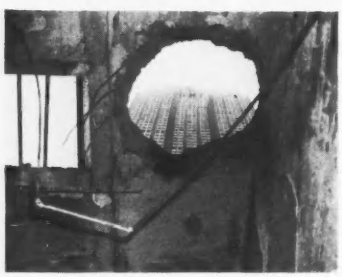
Inspection of schools is extremely important, as the rising school fire loss charts will testify. The Columbia Heights Volunteer Fire Department, Minnesota, reported that fire prevention and inspection is carried on at all times, working with the schools. In Maryland, the La Plata Volunteer Fire Department, Inc., Charles County, checks the fire equipment in all school buildings, semi-annually. Fire drills in the schools and programs to further the cause of fire prevention are included in the schedule of the Gas City Fire Department, Indiana. Skipping around the country, we find that the Woodbridge Volunteer Fire Association, Inc., Connecticut, sees that fire prevention programs are carried on in grammar schools by Chief William A. Hitchcock and line officers.

THE best detailed description of fire prevention week activities came in a report from Haddonfield, New Jersey, by Chief Jonathan F. Cox, of The Haddon Fire Company No. 1. "Our greatest special activity is 'fire prevention.' We are trying to make our citizens more fire-conscious every day. In order to do this, the fire marshal of the borough and the chief conduct semi-annual inspections of all business houses in the borough and periodic drills are held in all the schools.

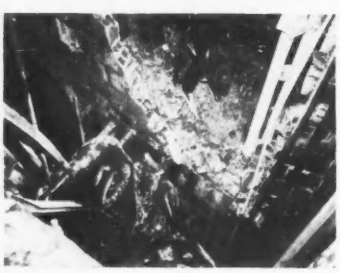
"On Sunday, a large window in one of the stores was decorated with antique fire equipment and modern. A large sign placed on the fire house was floodlighted. Monday and Tuesday, literature from the N.F.P.A. was distributed. Wednesday evening, a public demonstration of fire fighting was given for the citizens. Friday night, we held open house, a peanut scramble, and a street dance for the young people of the town. Saturday evening, the ladies of the company served a dinner to conclude the week.

"During the year we have been fortunate to have Battalion Chief Frank A. Rowe of the Philadelphia Fire Department visit us with talks on special matters concerning fire fighting. He brings other men from the department for demonstration purposes. We are members of the N.F.P.A. and gain much useful information from them."

Impact imbedded propeller in wall.



Tower revealed through concrete penthouse roof pierced by plummeting motor.



Bomber wheel wedged in elevator shaft where car and operator plunged 80 floors.

Three-inch lines supply building standpipes.

VOLUNTEER FIREMEN visualized fighting fire in the Empire State tower by helicopter back in 1943, when the late Al Smith was building manager. The cartoon showed Mayor LaGuardia with Commissioner Walsh manning a helicopter fire engine.

Credit photos Empire State fire, p. 7: top to bottom Press Association, NFPA, International, Acme. P. 8: top 3 photos Press Association, Acme.

floor, 5,000 gallons; 63d floor, 5,000 gallons; and 85th floor, 3,500 gallons. The standpipe pumps and tanks were supplied by special fire service connections to the city mains. As it turned out, there was no need to pump into the building system. A 14,000-gallon tank, of which 3,500 gallons were reserved for fire use, provided adequate supplies of water from the 85th floor. On each floor, depending upon area, there were one or more central station fire alarm boxes which when operated brought an extensive assignment of city fire apparatus.

Evolution No. 8 of the New York Fire College is designed to supply water to standpipe systems and to operate hose lines therefrom. This evolution is performed whenever a fire is on the fifth floor or above, in a building equipped with standpipe systems. In practice, two doughnut rolls of 2½-inch hose connected together are stretched to the standpipe hose outlet valve on the floor below the fire floor. Forcible entry tools are used for the purpose of gaining entrance to the building or fire floor, and also to effect entry directly below the fire, so as to provide space for the surplus hose line and to relieve congestion in the stairway. Entrance to the floor below the fire is also considered necessary for purposes of examination and to gain access to the fire floor by way of any fire escapes. Hose outlet valves of the standpipe must be fully opened when hose lines are in operation. The evolution is given below as it appears in the New York Fire Department's "Official Action Guide." In the following evolution the fire is assumed to be on the 6th floor.

SUPPLYING WATER TO A STANDPIPE SYSTEM AND OPERATING A HOSE LINE THEREFROM

Equipment:

1 high pressure hydrant wrench
1 high pressure hydrant gauge
4 lengths of 3-inch hose
1 length of 2½-inch hose (rolled up, with female butt overlapping male butt on the outer turn of the roll)
1 controlling nozzle (2½-inch x 1¼-inch)
1 axe
1 claw tool
1 lock breaker
1 6-foot hook
1 combination punch and chisel
1 hose spanner for each member

Command:

Stretch two 3-inch hose lines (2 lengths in each line) from high pressure hydrant to outside siamese connection of standpipe. Operate hose line from standpipe hose outlet valve at 5th floor; fire on 6th floor.

Operation:

(*a*) Remove caps from two outlets of H.P. hydrant (outlets facing in a general direction toward outside siamese connection of standpipe)

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GET YOURS NOW!

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3 Rescue Features
4 Basic Fire Hazards
5 Armament
6 Fixed and Portable Fire Protection on the Airplane
7 Anticipating Crashes
8 Response
9 Rescue Operations
10 Fire Fighting
11 Airfield Operations

With the advance of aviation, crash fires will become more frequent, a constant challenge to the efficiency of every fire department. It is important that your department receive training in crash fire combat technique. This manual is based on information from the best aeronautical and fire protection authorities.

Price $1.00

postpaid

NATIONAL FIRE PROTECTION ASS'N
60 Batterymarch Street
BOSTON 10, MASS.

Planning Your Fire Prevention Week Inspection

by Chief Joseph I. Fetters,
Nebraska Department
of Vocational Education

FIRE Prevention Week inspections can be made into valuable fire fighting surveys with very little additional effort. Fire inspections are usually made to discover and eliminate existing fire hazards and for the psychological effect in making citizens fire conscious. These are, at least, the primary objectives of inspections by agencies such as fire marshal department, insurance organizations, and fire prevention bureaus, and they have served as a guide for routine fire inspections in many fire departments.

By observing conditions closely and by exercising imagination, to the extent of visualizing a building and its contents under fire conditions, fire departments can make inspections pay high dividends in the saving of life and property when fire strikes.

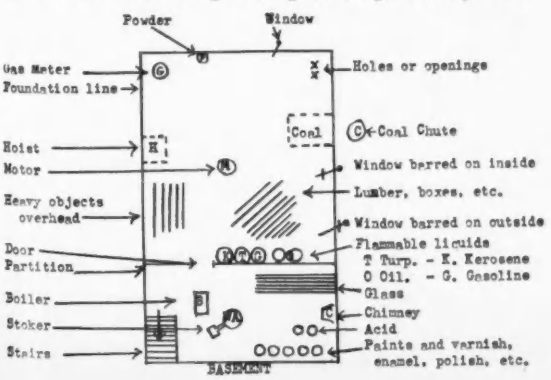
A fire department inspection should consider the following items:

1. Rescue of occupants
2. Self-preservation
3. Fire fighting
4. Fire prevention
5. Moral Hazard and effect
6. Incendiary warning signs
7. Selling the fire department.

In order to accomplish these objectives, the fireman needs only good common sense, a friendly attitude, a flash light, a notebook and a pencil. Two men should worktogether, wearing uniform caps and the proper clothing (coveralls, etc.) to allow them to go into all the dark corners, attics, and behind heating plants.

Immediately upon entering a building, contact the owner or person in charge. Tell him that you would like to make rough floor plan drawings of his building, in order to help plan your department's attack in case he is so unfortunate as to have a fire and to enable the firemen to put out the fire in the shortest possible time, with the least amount of property damage from fire and water. No matter how well you know him, do not tell him that you are looking for fire hazards, nor waste time talking of fire department or personal troubles. Do not antagonize him by asserting your authority. Try to sell him thoroughly on the fire department's interest in protecting his life and property, and get his permission to proceed with the inspection. **DON'T SMOKE** — Nothing could be worse than a fire starting shortly after an inspection by firemen.

It is a good plan to start in the basement, where most of the "hot spots" are and where the heating and other systems originate. Next inspect the other floors, the attic and the roof, and then the surrounding buildings with regard to exposure or spreading of fire. Also look for outside hazards, such as accumulations of rubbish, position of incinerators, weeds, straw.



Make floor plan drawings — few symbols are necessary. These drawings need not be elaborate, but try to make them somewhere the proper dimensions. Make notes beside the drawings. Front and rear view or side view drawings are of much value. They give the height, size, and type of construction of buildings. On these drawings the locations of fire hydrants, and the type and occupancy of adjoining buildings may be shown.

Make notes covering information necessary to assist in:

RESCUE

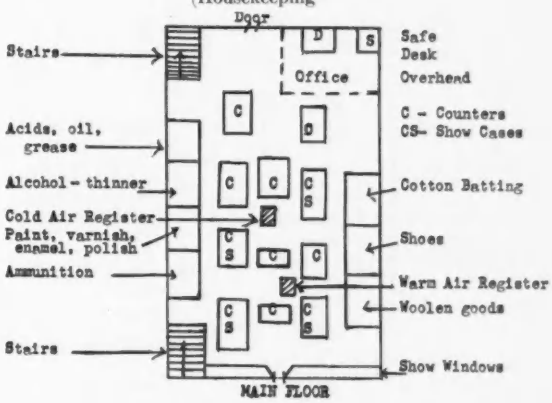
- Kind of occupancy
  - Number of occupants
  - Location in building at all hours
- Building
  - Fire escapes
    - Location
    - Condition
    - Obstructions
  - Doors, windows, exits, stairways
  - Adjacent roofs.

No building is worth a fireman's life. Make your notes complete — this is protection against unforseen injury and death — when considering:

SELF PRESERVATION

"Man-traps"

- Restricted or few exits
- Trap doors
- Stocks which absorb much water
- Unsafe walls, weak roofs
- Chimneys on brackets
- Location and type of hazardous contents
- Heavy materials overhead
- Storage of ammunition
- Refrigeration systems
- Unprotected stairways and elevators
- Broken treads on stairs
- Weak floors or supports
- Overloads on floors, holes
- Congested conditions
- Rusted-out fire escapes
- Electrical appliances and wiring
- Low pipes
- Housekeeping



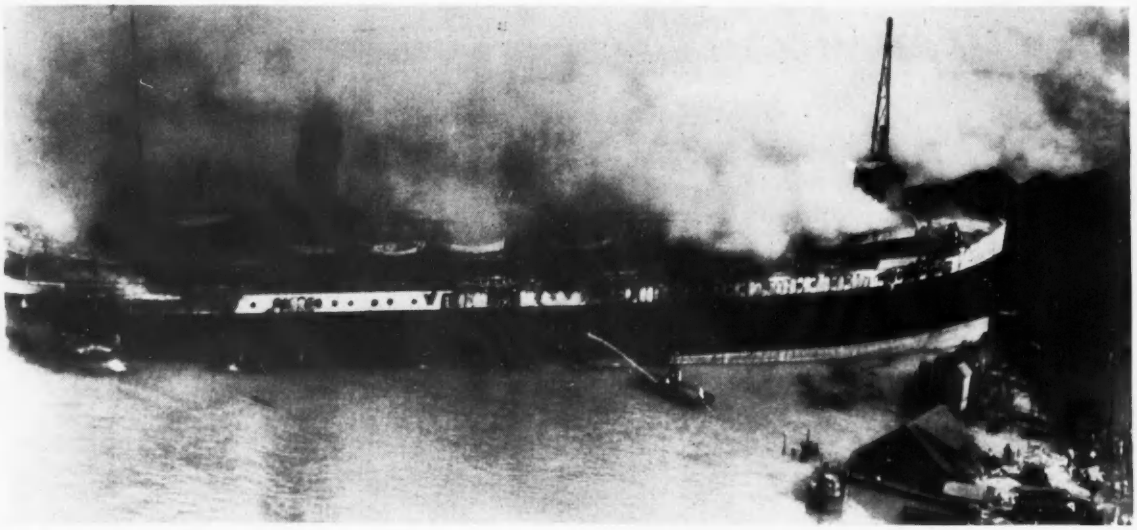
Determining and noting some of the following characteristics of buildings will often mean the difference between a large and small fire loss.

FIRE FIGHTING ASPECTS

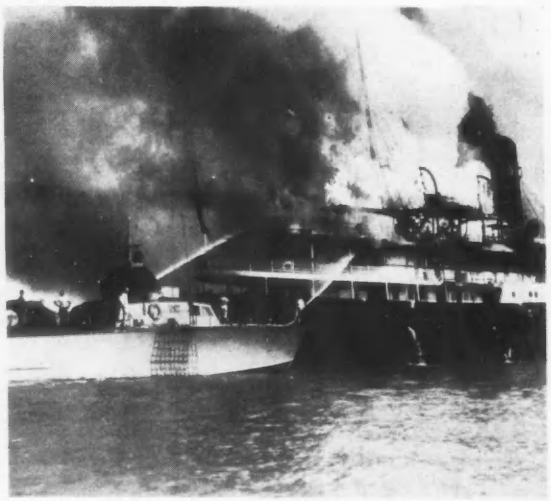
Most effective points of attack
- Placement of
  - lines
  - extinguishing
  - exposure

Continued on page 12

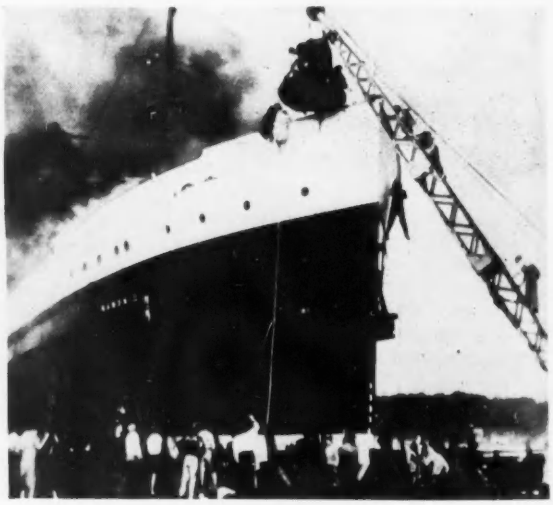
1 Dead — 376 Saved in $3,000,000 Steamship Blaze



Press Association photos



A U. S. Army patrol boat attacks flames at the stern of the S.S. "Hamonic." River craft picked up many persons who jumped or fell into the water.



Eight to ten persons at a time rode to safety in the bucket of a crane, operating from an adjacent coal wharf. Other persons may be seen sliding down ropes to the dock.

BACKFIRE of a freight handling truck, following minor motor adjustments, set fire to the oil about the engine being repaired in the battery room of the Canadian National Railways 1,150-foot long, frame wharf shed at Point Edward, Ontario, at 8:20 A.M. on July 17. Employees made futile attempts to control the blaze with hand chemical extinguishers, while flames almost immediately swept up the side of the Canada Steamship Lines 365-foot Great Lakes passenger vessel "Hamonic" moored at the wharf.

About 175 of the 247 passengers were at breakfast when flames cut off possible escape to land by way of the pier shed. Captain Horace L. Beaton gave orders which resulted in saving the life of every passenger, although some 100 passengers and crew members were injured in escaping the fast sweeping flames.

He ordered the bow line cast off, and although the ship was enveloped in smoke and flames, it was turned from the dock and brought in at an adjacent coal wharf. One of the crew men who released the hawser lost his life when he was either pulled into the water or jumped to escape the flames.

Some passengers and crew members leaped into the St. Clair River, others slid down ropes. Many others were removed, eight to ten at a time, by the bucket of a coal hoist which was swung to the bow. The 130 crew members did excellent work in searching cabins, assisting passengers to safety and fighting the fire. The captain, although surrounded by fire and severely burned on face, hands, and feet, remained at his post until everyone was off the vessel.

Fire Chief J. Strangway, of Point Edward, directed firemen from Point Edward, Sarnia (Ont.), Port Huron (Mich.), the industrial fire brigades of Polymer Corp., and the Imperial Oil Co. Ltd., both from Sarnia, and civilian defense equipment from Port Huron.

The long freight shed was without any fire breaks and lacked automatic sprinkler protection. It was constructed of timber which had been salvaged when its predecessor, built in 1900, was destroyed by a cyclone in 1933.

This Was the Forest Primeval

3 photos by Acme of 200,000-acre fire in Oregon

IN one of the driest summers in several years, a dearth of experienced forest fire fighting personnel and the lack of labor to remove slash from logging areas were contributing factors in a series of ten great forest fires in the western part of the United States. In one state, 200,000 acres of valuable timber land were devastated. Fire fighters in the largest cities have never fought fires of magnitude comparable to these which destroyed forest land in California, Idaho, Oregon, and Washington this summer.

To August 3, there were sixteen fires of Class E magnitude, devastating 300 acres or more. Ten fires burned over a thousand acres. A blaze that began in Tillamook County, Oregon, along the Wilson River, progressed actually in leaps and bounds, consuming several thousand acres per day. Discovered on July 6, the Wilson River fire had burned 1,800 acres on July 13, by the fourteenth, 5,000 acres, and 20,000 acres on July 16. When it merged, four weeks later, with a blaze that had started in Cochrane township, the flames were still raging. Together, these fires had seared 125,000 acres.

The several thousand fire fighters, firefliers, smokejumpers, and loggers, have not been aided by weather conditions. Winds have been hot, the days dry and very low humidity over the entire area.

Continued on page 23

View of Oregon fire — Press Association

Fire Prevention Week Inspection

Continued from page 9

- Large open areas
  - Cocklofts
  - False ceilings and roofs
- Holes in partitions and walls
  - Low partitions, not extending to ceiling
- Tunnels for utilities
  - Other avenues for extension of fires
- Unexcavated areas under buildings
- Ventilating facilities
  - Elevator shafts, shaft covers
  - Penthouses, skylights
  - Scuttle holes
  - High windows, ventilating ducts
- Fire protective devices
  - Fire doors, condition
  - Sprinkler systems, condition of
  - Shutters
  - Standpipes, hose

FIRE PREVENTION

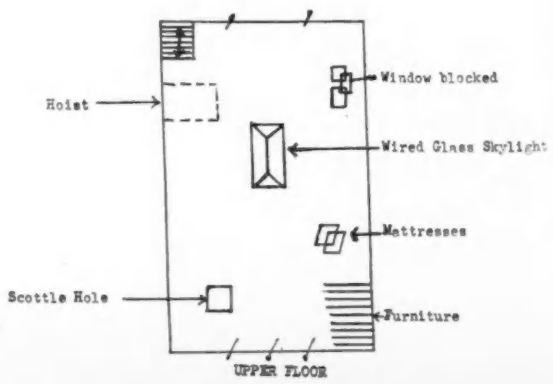
In order to stop a fire before it starts we must look for and recognize fire hazards. Here are some common conditions:

MERCANTILE STORES

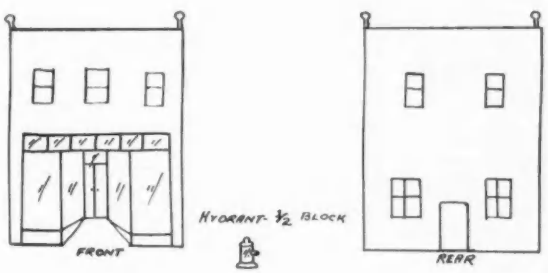
- Housekeeping
  - Wastepaper, dust, kindling, rags
  - Stairs, aisles, and windows unobstructed
  - Placement of combustible material
  - Packing materials
  - Outside of building, incinerator
  - Matches, careless smoking
  - Oily material, litter, painting material
  - Hoist sumps, elevator sumps
- Heating
  - Stoves, furnaces, oil burners
  - Registers, radiators
  - Pipes, chimneys
  - Fuel, kindling, boxes
  - Ashes
  - Stokers, care of
- Electrical
  - Defective Wiring
    - Short circuits
    - Overloads
    - Amateur wiring
    - Open connections
  - Appliances
    - exten. cords
      - cotton, knots
      - thru floor & walls
    - watch clearance from combustibles
    - large bulbs, clear.
  - Fuses
    - proper size
      - if lights on circuit, 15 amp. add circuits
    - plugging, reloading cartridge type
- Flammable liquids
  - Gasoline
    - Melting pots, blow torches
    - Cleaning, grease
    - Keep in approved safety can
  - Kerosene, turpentine, spray and dip
  - Paint solvent, thinner, varnish
  - Enamel, lacquer, paint
  - Wax, polish, cleaning solvent
    - in glass location
    - use sand
    - hot sawdust for drip pan
  - Others

SCHOOLS

- Electrical
  - Wiring
    - Insulation from age
    - Defective
    - Amateur wiring
    - Stages and spotlights, switch panels
  - Fuses
    - Not proper size
    - Bridging, plugging
    - Lock fuse panel boxes
  - Appliances
    - Motors, belts, machinery
    - Dust in manual training or sloyd rooms
    - Clocks, alarms, fans
    - Extension cords, boiler rooms
- Exits
  - Not enough doors, too narrow
  - Doors open inward, all should open with line of travel
  - Insufficient stairs to upper floors
  - Poorly placed, obstructions
  - Areas too large
    - Assembly rooms — not over 2000 sq. ft.
    - Attics
  - Fire drills
    - Serious
    - Not hurried, crowding
    - Check rooms, building, class rolls
    - Obstructed
    - Safe distance outside — hydrants, fire trucks
- Fire Escapes
  - Stair
    - Steps, rails, supports
    - Doors, sticking, jamming
    - Passing windows
    - Locations marked
  - Tubular and toboggan slides
    - Entry doors — weights, springs, ropes, keep open, location, marking accessibility
    - Condition — pitch, bends, landing, joints smooth, supports, sagging, large help little
- Housekeeping
  - Coal, test temperature, remove when above 140°
  - Incinerator to basement
  - Accumulation of rubbish
    - basement
    - supply rooms
    - other locations
  - Burning rubbish, no incinerator
  - Home economics, domestic science rooms
  - Manual training, dust, shavings, heaters



- **Schools cont.**
  - **Heating**
    - Oil heaters not fireproofed
    - Stokers, sticking motors, hoppers
    - Defective chimneys, flues, smoke-pipes
    - Ashes
  - **Flammables and Explosives**
    - Auto repairing: gasoline, oils, grease, anti-freeze
    - Paint solvent and thinner
    - Varnish, paint, floor oil
    - Kerosene, others
    - Labs: chlorates, nitrates; sodium, potassium; acids, phosphorus
  - **General Hazards**
    - Inside basement doors not fireproofed
    - Attic doors and openings, keep closed
    - Openings under buildings, close, children
    - Wooden shingle roofs
    - Combustibles near ventilating ducts
    - Benches, etc., stored on boilers
    - Painters materials
    - Repairing, refinishing, polishing
    - Some sweeping compounds
    - Storage under stairways and seats



- **Factories**
  - **Housekeeping**
    - Raw material: fibres, metal, liquid
    - Packing material
      - Sacks: paper, cloth, burlap
      - Boxes: paper, cardboard, wooden
      - Excelsior
      - Shredded paper
    - Dust
      - shavings: wood, metal
      - collectors, cleaning
      - sweepings
    - Flammable liquids
      - paint, varnish, etc.
      - gasoline, kerosene, etc.
      - gases: acetylene, hydrogen
    - Rags: wiping, polishing, containers
  - **Smoking**
    - Provide room: fire resistive clean cuspidors, ash trays inspect, check
    - Signs: hazardous locations, fire marshal
- **Factories cont.**
  - **Special**
    - Hazardous processes: safeguard, inspect, educate employees
    - Hazardous materials: precautions, education
    - Hazardous machinery: heat appliances, oil and dip tanks
    - Fire drills: good practice, fire conscious, promotes security
    - Encourage employees to report unsafe conditions
  - **Heating and lighting**
    - Follow fire safe standards
    - National Electrical Code
    - Inspect regularly: individual responsibility, check often
- **Other Buildings**
  - **Bowling alleys**
    - Pyroxylin lacquers
    - Pin refinishing
    - Alley resurfacing
    - Pin boys: smoking, matches
    - Lockers
  - **Airplane hangars**
    - Gasoline
    - Lacquers, "dope"
    - Fast burning: planes, buildings
    - Washing: motors, planes
  - **Buildings under construction**
    - Salamanders
    - Riveting
    - Cutting and welding
    - Scaffolding

Immediately after the inspection, a friendly conference should be held with the owner or occupant. In this, the inspector should say "I noticed oily rags piled in the corner . . .," etc. Explain how these can easily start a fire, then leave it up to the occupant to take the necessary measures. Make good common sense recommendations for eliminating the hazards. Don't overlook the little things — they usually cause the big fires.

Moral Hazard and Effect. The moral hazard is sure to increase, due to excess stocks of wartime substitutes. Many of these items will be obsolete when better raw materials are available. Some of the items are, automobiles, furniture, toys, shoes, and common household items.

Always ask about the value of the building and contents, and also the insurance carried. Do not ask point-blank questions, like: "How much is your stock worth?" but "You surely have a fine large stock of merchandise — it must run about $15,000." Handle the insurance problem in the same manner. These question have considerable effect where there is a moral hazard, and when you stop this type of fire before it starts, you are doing the owner a very great favor.

Incendiary Warning Signs. These consist of excessive amounts of combustible rubbish, paper, excelsior, flammable liquids, obsolete stocks, etc. When these are noted, check the shelves. Many of the containers may be empty to put up a "false front." Do not discuss these indications, but immediately notify the fire marshal's office.

Continued on page 23

LOOKING BACKWARD

Display of antique fire apparatus at St. Catherines on Lake Ontario, Canada

CHIEF L. ARTHUR BURCH, of the St. Catherines, Canada, Fire Department, contributed these photographs of antique fire equipment stored in the museum at Niagara-on-the-Lake. In a talk on the Organization and Development of Fire Fighting, given at the Annual Meeting of the Dominion Fire Prevention Association and Annual Conference of the Association of Canadian Fire Marshals at Quebec, Chief Burch described these museum pieces.

"A very interesting collection of early fire fighting equipment is housed in the museum of the Niagara Parks Commission in Fort George. The equipment, all from old Niagara, consists of a two-man hand engine, the gooseneck type, dated 1763. A sixteen-man hand suction engine, made by Perry of Montreal, dates back to 1830. This engine was donated to Niagara-on-the-Lake by the town of St. Catherines somewhere between 1855 and 1860, after the town of old Niagara had experienced a serious fire. A hook and ladder truck, with the original hooks, all hand wrought, with poles cut from the bush. A two-wheeled tank wagon with a capacity of 300 gallons."

Chief Burch goes on to describe early fire fighting apparatus,

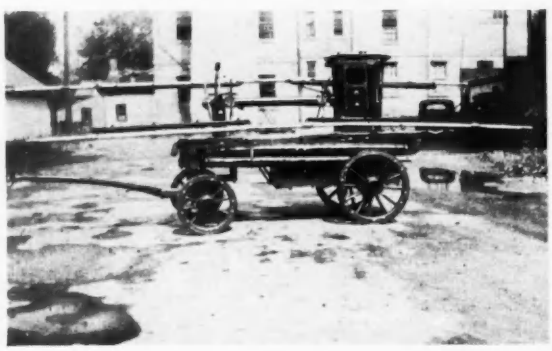
"The development and application of the first hand engine or extinguisher dates back to over 200 B.C. The Egyptians developed a crude sort of manually-operated hand pump which delivered water in a series of intermittent impulses and squirts. This intermittent flow was due to the absence of air chambers and hoses. The latter were not developed until late in the 17th century.

"The first hand fire engine was introduced in the city of London, after the great fire of 1666 which wiped out over one-third of the city. The following year, the first organized fire brigade was formed.

"The first fire fighting equipment on this continent, a hand engine, was brought over from England in 1718 and two more were imported in 1731, but the first organized fire company was formed on January 27, 1678, in Boston with a complement of twelve men. As early as 1658, twenty years prior, a night patrol was employed in New York to spot fires."

A bucket cart around 1834. The bucket brigade was well equipped when they ran through the street dragging this piece of apparatus.

This sixteen-man gooseneck engine was used around 1834. Manpower was no problem a century ago.



This engine really dates back. The men on the bucket cart, shown above, kept the tank of this 1763 model filled. Only two men were required to man the pump.

This was a typical hand-drawn hose reel of the early 19th century.

This tank cart, 300-gallon capacity, might have been used by the firemen to haul beer occasionally.

Working from these ladders, forerunners of present-day aerial sky-reachers, firemen of 1830 had little fear of vertigo from dizzy heights.

Miami Herald

BIG OIL FIRE NEAR MIAMI

Based on a report by A. M. Willis
Chief, Bureau of Fire Prevention

This plant was engaged in reclaiming used airplane lubricating oil, using stills, mixing tanks, filter presses, storage tanks for black and cleaned oil, and 3,000 55-gallon drums, most of which contained black (dirty) oil. The reclaiming process consisted of heating the oil and purifying with fuller's earth.

An employee opened a drain-off valve to drain distillate into a 200-gallon surplus pan used for drum rinsing, when a flash fire occurred. Closing the valve, he telephoned the fire department and attempted to control the fire with a 40-gallon foam extinguisher.

A county fire unit responded to the first alarm. Fifteen minutes later, help was called from the city of Miami, from Coral Gables, the U. S. Navy, the Coast Guard, and the Army Air Depot.

Water was relayed from a canal and from a distant hydrant. High pressure streams from an Army crash truck gave added help. A small boy was killed by an exploding oil drum and sixteen employees and fire fighters were injured. Loss estimations reached $150,000.

Navy and Coast Guard helped evacuate residents.

Fire spread to nearby oil plant.

How would you like to have this in your back yard?

HERE'S HOW A BUS BURNS.

Thirty-seven passengers escaped before this bus burst into flame 1,700 feet from a hydrant in Minneapolis. The first picture shows the fire in incipient stage with firemen preparing to use 1½-inch lines. Next the bus splits, as the flames rage furiously while firemen still await more hose. Finally, a 2½-inch solid stream is used to wet down the ruined vehicle. The loss was estimated at $22,000.

3-Way FM Radio in Operation

Riverside Hose Co. No. 4, Tarrytown, New York

Member N.F.P.A.

Described by Captain James J. Taxter

THE Riverside Hose Company No. 4, of the Tarrytown, New York, Fire Department, has equipped its apparatus with 3-way radio equipment. If not the first "all volunteer" department so equipped, it surely has the distinction of being among the first.

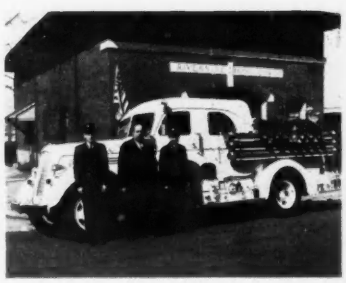
Tarrytown, 7,500 population, is not large enough to permit the fire department to have its own radio system. The work of handling fire alarms, other than those which are transmitted from street boxes, has been turned over to the police. The police act as dispatchers and, in a sense, serve as fire alarm headquarters. This police radio system is best suited for the fire company's needs.

Tarrytown has better street fire alarm box coverage than any community its size in the world. Nearly ninety per cent of all fire calls are handled through police headquarters. They may dispatch fire companies, on still alarms, or transmit a box location according to the information they receive. After a street box is transmitted someone usually calls in on the fire, with the result that the police have exact information as to the location of the fire and can communicate this added information to the apparatus responding to the fire alarm box location.

Tarrytown's volunteer chief has a car, but for many reasons the radio equipment is placed on a pumper. First, it was the Riverside Hose Company that purchased the radio equipment. With their own funds they purchased and gave it to the village. It was felt more practical to have an engine company, fully equipped to take care of almost any fire, in constant touch with headquarters, rather than the chief's car which could only take care of an incipient fire. The equipment is now installed in the company's 750-gallon Seagrave apparatus. It is equipped with two batteries, but the set does not draw heavily on the power system.

As problems arose, Chief John Awerdick of the Tarrytown Fire Department worked with Capt. James J. Taxter of the Riverside Hose Company to remove them. It was largely through his efforts that the set is now functioning. The chief, long known as a progressive and outstanding member of the fire service in Westchester County, has been a member of the "Fire Chiefs' Emergency Plan," an organization which controls all mutual aid in the county.

Chief of Police Edgar Martin and Lieut. Harry B. Cramer at first thought that the radio plan might result in difficulty with the Federal Communications Commission if the transmitter on the fire apparatus were misused. Chief Martin and Lieutenant Cramer, Fire Chief Awerdick and his assistants, Alfred Merker and Robert Livingston, together with Captain Taxter, held several conferences and the police officials agreed to give it a trial. The village then had to apply to the FCC for a construction permit and the men to operate it had to be licensed.



Chief Awerdick, Mayor William Livingston, who was also fire commissioner, and Capt. Taxter at the inaugural trial of the department radio.

The FCC does not demand that mobile units keep radio logs, as they are maintained by the main station. However, Captain Taxter arranged to keep a log of all calls involving the fire truck.

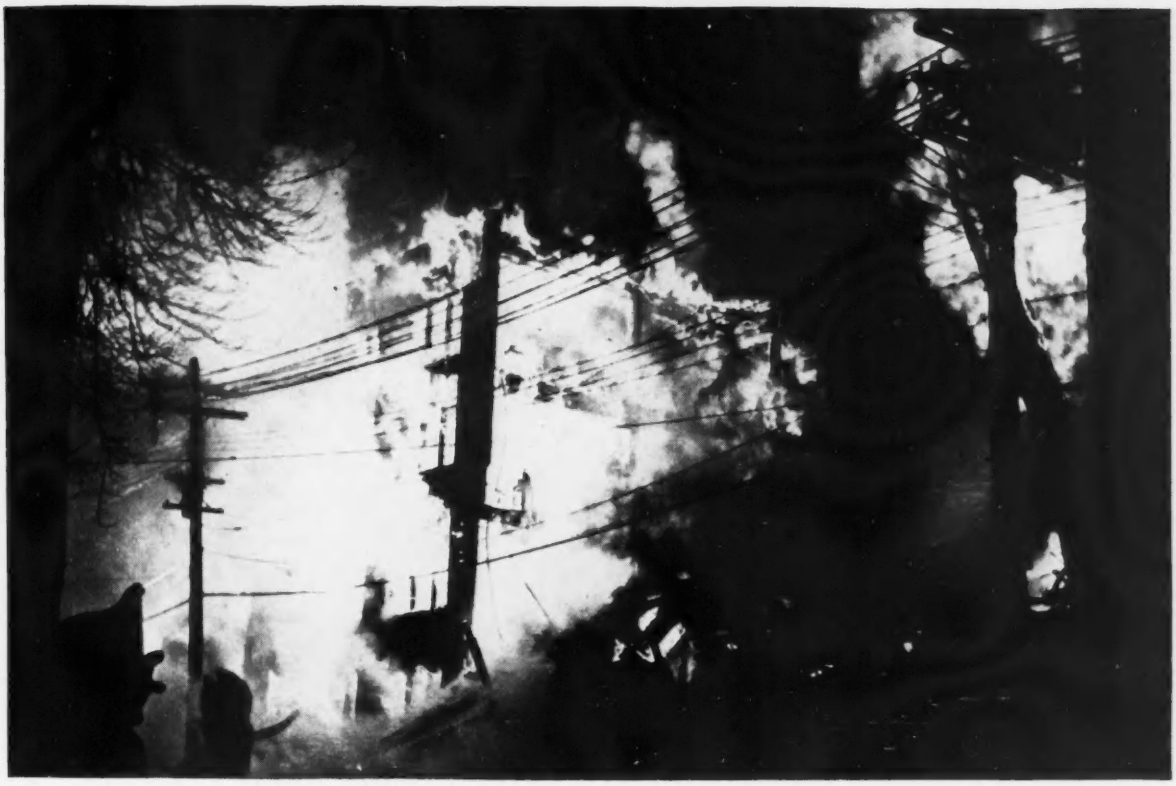
When the company applied to the WPB for a priority last August, a field representative came to Tarrytown and the request was denied. Captain Taxter felt that he had not received proper information and went before the regional board in New York City. He won a top priority rating which resulted in the immediate delivery of the equipment.

The radio is a Motorola system, frequency modulation type, 25 watt power, and operates on 35,000 kilocycles.

The idea of the new communications system was first considered by Captain Taxter back in 1939. In 1941, when the company bought its new Seagrave pumper, a portable telephone system was proposed. Because of the difficulty of stringing wire it was abandoned and the use of the police radio seemed the most practical solution.

Above left **Chief Awerdick transmits "in service" message, as Capt. Taxter looks on.** ***Left*** **Lt. Cramer of the Tarrytown Police receives the first message from the fire apparatus.**

$500,000 WENT UP IN SMOKE



...because someone forgot to open a sprinkler valve

THIS BLAZING INFERNO tells a story with a moral. Until April 6, 1945, the building was a busy manufacturing plant in Syracuse, N. Y., turning out goods for the U. S. Army. It was protected by a modern automatic sprinkler system, but when fire broke out at 5:40 A.M., the sprinklers couldn't operate because someone had closed a shut-off valve.

Closed shut-off valves are the most common cause of unsatisfactory sprinkler performance. No matter how frequently inspections are made, there is always the possibility that a valve may be closed accidentally or maliciously *between inspections*. Often valves closed by well-intentioned workmen while making repairs are overlooked and left unopened. Whatever the cause, the sprinklers are useless in the event of fire.

The most effective way to prevent closed shut-off valves and other conditions resulting from human failures is to safeguard the sprinkler system with A.D.T. Sprinkler Supervisory and Waterflow Alarm Service which maintains a continuous automatic watch over all points on the system controlling the water supply and its distribution.

Through the installation of special detecting and reporting devices, closed shut-off valves, low water in gravity and pressure tanks, low air pressure, danger of frozen water supplies and other abnormal conditions are reported to the A.D.T. Central Station for immediate corrective action. Waterflow alarms caused by fires or serious leaks are transmitted to the fire department and other protective agencies.

Let us tell you how you can apply this service to effect substantial economies while obtaining increased protection.

A. D. T. SPRINKLER SUPERVISORY AND WATERFLOW ALARM SERVICE

Controlled Companies of **AMERICAN DISTRICT TELEGRAPH CO.** *155 Sixth Avenue, New York, N. Y.*

CENTRAL STATIONS IN ALL PRINCIPAL CITIES OF THE UNITED STATES

A·D·T

Electric Protection Services

AGAINST FIRE · BURGLARY · HOLDUP

A NATION-WIDE ORGANIZATION

A LITTLE WATER GOES A LONG WAY

ONLY 125 GALLONS OF WATER USED

This tinder dry house was soaked with gasoline and oil before it was set on fire. Two firemen moved in with two FMC Fog Fire Guns at 30 gallons per minute. The flames were extinguished in two minutes. Total water used — only 125 gallons.

OUT—IN LESS THAN 5 MINUTES!

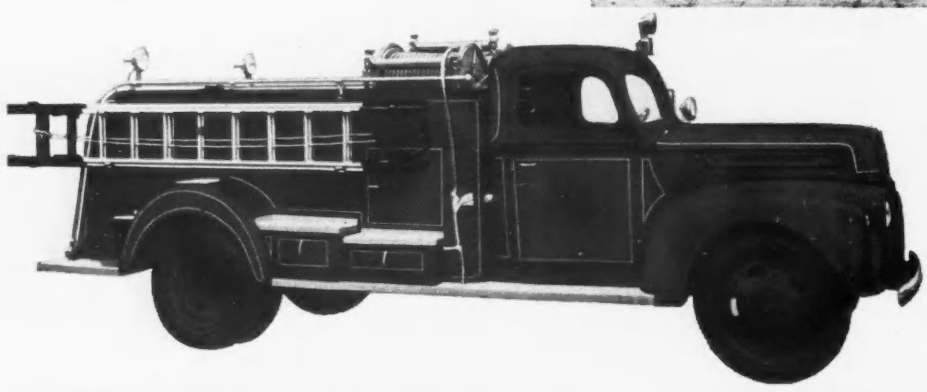
This old garage, with car inside, was saturated with inflammable liquids. One fireman knocked down the fire, using one FMC Fog Fire Gun at 30 gallons per minute. Total water used—less than 150 gallons.

YOU GET ACTION—*fast*—with FMC High-Pressure Fog. And you use a *minimum* amount of water!

Here's why! The high pressure provides a combination of high velocity and finely-atomized water—just what is needed to *blast, cool* and *smother* flame. One gallon of this steam-like water fog, properly used, has many times the fire quenching possibilities of low-pressure water.

The reason? The fine fog particles absorb heat more rapidly than ordinary droplets of water, and the steam —created by the fog—soon smothers the flames.

Due to its fineness, speed and heat-absorbing properties, the high-pressure fog is completely used up. There is *little* or *no water damage.*



STANDARD FMC FOG FIRE FIGHTER

A self-contained fire fighting unit. Carries its own water supply and complete fire fighting equipment. Provides two guns of 30 gallons each at over 600 lbs. nozzle pressure. Quickest possible action on arrival.

BUILDERS OF BEAN HIGH-PRESSURE

WITH FMC HIGH-PRESSURE FOG!

Note These Features:

1. Protective Spray.
2. Adjusting Barrel.
3. Trigger Grip.
4. Gun Lock.
5. Hose Swivel.

WATER BROKEN INTO TINY PARTICLES

The FMC Fog Fire Gun—built and patented by Bean—is designed especially for high-pressure fog fire fighting. It cannot be used with a low-pressure system.

This gun breaks up the water into minute particles—which form a veritable *blanket of fog.*

The gun is capable of projecting every type of fog formation that may be needed for any type of fire. Everything from a wide fog pattern for close-up work to a long-reaching power stream. On arrival—the fireman has all that he needs to fight the fire.

IT'S THE PRESSURE THAT COUNTS!

The FMC High-Pressure Pump — built by Bean — is different from all other pumps and is *designed especially for high-pressure work* by high-pressure pump engineers.

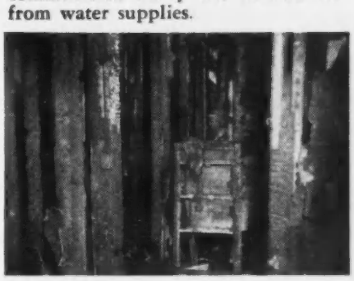
This pump packs the needed punch to produce and maintain *800 lbs. pump pressure*—over *600 lbs. nozzle pressure.* No need to speed up the pump to get the necessary pressure! It does its work easily — without overworking.

INVESTIGATE!

GET THE FACTS. *You owe it to yourself to find out all about this new and revolutionary fire fighting technique. It has proved its worth at thousands of town, rural and airport fires.*

YOU GET ACTION—FAST!

This building is typical of the type of structures to be found in rural communities. Many are located far from water supplies.



This particular house (28 x 32) was entirely on fire on arrival.

The fire, which started all over the first floor, spread rapidly to the upper floors.

Two firemen with two FMC guns at 30 gallons per minute knocked down this fire.

The flames were extinguished quickly with a water consumption of about 350 gallons.

FMC *Original* HIGH-PRESSURE FOG FIRE FIGHTER

CAN BE MOUNTED ON MOST STANDARD TRUCK CHASSIS

FOOD MACHINERY CORPORATION

JOHN BEAN MFG. CO. 726 HAZEL ST., LANSING 4, MICH. : BEAN-CUTLER DIVISION, 426 JULIAN ST., SAN JOSE, CALIF.

PUMPS FOR OVER SIXTY YEARS

6 of 70 MASTERLIGHTS

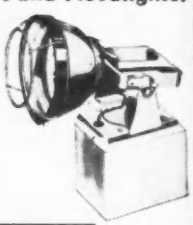
MASTER★LIGHTS FOR EVERY NEED

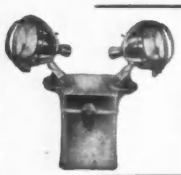
The best in colored oscillating lights for your motor equipment.

Type 06 ←
Clears Both Sides of Street

Featherweight, Mile Range, Rechargeable Hand Searchlights and Floodlights.

Type WS →
Uses Small Rechargeable Battery Mile Range



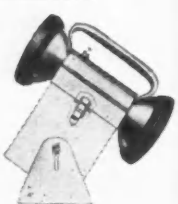


Type Dul ←
Emergency Floodlight For Theatres, Road Houses, etc.

Types F5 and Super-6 →
Dry and Rechargeable Units. ¾ Mile Range

Type T ←
Roof mounted Officers Searchlight 360°

Type T&T →
Two-Way. Hand and Red Warning Light



CARPENTER MFG. CO.
160 MASTER ★ LIGHT ★ BLDG.
BOSTON 45, MASS.

Our Readers Say—

Use of 1½-inch Lines at Richmond, Maine

Dear Sir:

Due to the increasing popularity in the use of 1½-inch hose lines, we thought some of your readers may be interested in the way we use them on dwelling fires, and the amount of fire that can be controlled with small lines.

We recently had a fire in a two and one-half-story dwelling with shed attached. The fire was caused by an exploding oil stove and spread by the eruption of a 50-gallon oil drum stored in the shed. We confined this fire to the shed where it started with four 1½-inch hose lines.

The only damage to the house was from smoke, with the exception of two rooms, one upstairs and one down, adjoining the shed. The fire was checked at these two points by 1½-inch lines with ⅜-inch tips, one on each floor. Two 1½-inch lines with all-purpose fog nozzles and ⅝-inch straight stream tips, controlled the fire in the shed.

These lines were fed by a 300 g.p.m. rotary pump taking suction from a hydrant on a 6-inch main, through three 2½-inch lines, one of which was wyed off into two 1½-inch lines, the other two were reduced with a 50-foot leader line on each nozzle. By removing the leader lines we can put the two large lines in operation if the small lines won't control the fire.

This hose layout is our usual hook-up now, for dwelling fires and we find it very satisfactory in fighting dwelling fires, with a minimum of water damage.

MAXWELL D. MARRINER, Chief
Richmond, Maine, Fire Department

Have Any other Departments Experienced This Problem?

Dear Sirs:

Our town is located on Route No. 16 and carries a large percentage of East-West truck traffic. Last March our department was called on a truck fire near town. The fire had too much of a start, but we did cut the tractor away from the trailer and extinguished the fire in the tractor, with some loss. We then pulled the load apart and watered it down (mostly wooden cases containing glass vials), plus getting a lot of brass collars out before the fire damaged same. As there was no water available, I had water hauled in milk cans from about a quarter mile away. The fire started about 1 P.M., and since the State Police did not arrive until nearly 4, we directed traffic until they arrived. The truck burned on the highway, so it was necessary to move traffic one way at a time.

I sent the trucking company a bill for $50 for this afternoon's work. I got a reply stating that, "Their insurance company and all insurance companies do not recognize statements from volunteer fire departments, and that their insurance company contributes to the state and the state in turn contributes to the volunteer departments." I wrote to Mr. Harry Krieger, of the Ohio Inspection Bureau, who informed me that we had no recourse and he knew of no state benefit as explained by the trucking company's insurance agent.

We decided that since our services were not appreciated and we know the trucking companies will not buy us a new fire truck when this one wears out, that we would not look for business in truck fires.

Last week we were called out of our territory on a double trailer, fuel oil truck (10,000 gallons) fire. We got the driver out and to the ambulance (he later died) and helped with traffic for a while. I think we possibly could have saved the second trailer (watered it), as it did not catch fire for about an hour. When the second trailer caught fire it melted the electric lines overhead, thus leaving the surrounding territory without power for four hours. Had we stayed and attempted to save the second trailer, we would have been there all day. We would have had to have water hauled to us, and the town would have been without fire protection while we were gone. (We have one fire truck.)

We have been criticized for not attempting to save the second trailer but we did more than we were obliged to do with conditions as they are.

I think something should be done to make the trucking companies and their insurance agents realize their responsibilities and make it so that they have to pay for services rendered.

R. W. DOLDER, Chief,
Frazeysburg, Ohio,
Volunteer Fire Department,
Member N.F.P.A.

EDITOR'S NOTE: Mr. W. H. Rodda, of the Mutual Cargo Pool, member N.F.P.A. Committee on Truck Transportation, has pointed out that there are so many interests involved that the solution of this problem is difficult. There are insurance organizations handling the cargo, another organization holding truck and tractor insurance, and other parties are concerned with protection of public utilities lines along the highway. Mr. Rodda went on to say in his letter, "Certainly there is no reason to criticize Chief Dolder for thinking first of the community which is supporting his department."

Drying Salvage Covers in Nyack, New York

Dear Sir:

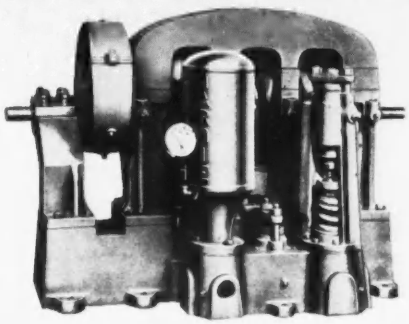
I was very much interested in your report of a unique method of drying salvage covers, as suggested by Chief Allen, on page 20 of the current issue. (July VF—Ed.)

This would seem to be ideal solely for the drying purpose, but what of the need for these trucks for either of them to respond to an alarm?

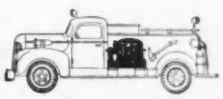
For well over twenty-five years, the Nyack Fire Patrol, following the practice we were taught in quarters of the New York Fire Patrol, has draped covers over specially prepared wooden rails, very smooth and rounded on top, resting in wall sockets set slightly more than half the covers' widths from the floor.

CAPT. WILLIAM PAUL BABCOCK,
Nyack, New York.

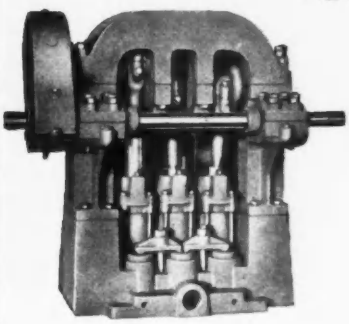
HARDIE PUMPS & GUNS



This Hardie LCXA pump delivers 60 gallons per minute at 130 R.P.M. with nozzle pressure at 800 P.S.I.

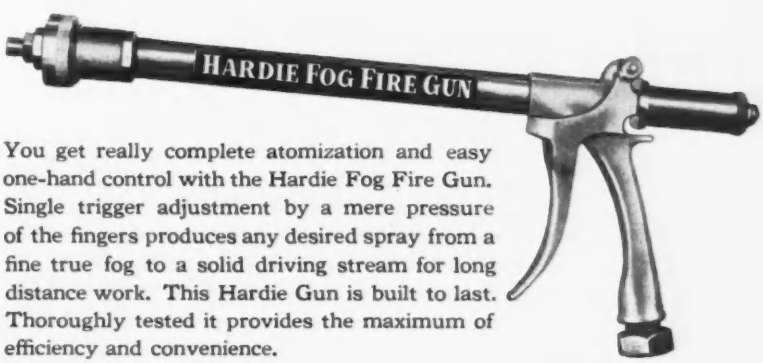


For Fog Fire Fighters

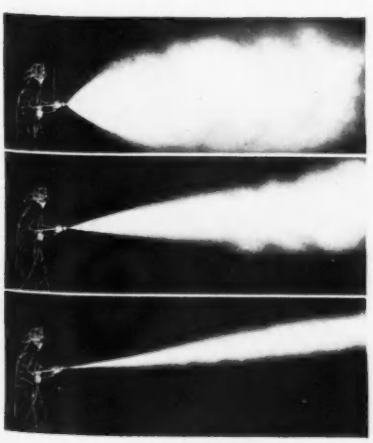


Above the Hardie XCXX pump delivers 35 gallons per minute at 118 R.P.M. with nozzle pressure of 800 P.S.I.

● 800 P.S.I. is an easy score for a Hardie High Pressure Fog Fire Fighter Pump. Hardie pumps give you 800 P.S.I. at slow speed, smoothly, quickly, continuously. There is no need to run a Hardie pump at excessive speed to get 800 P.S.I. for every Hardie pump is designed and built to deliver that pressure easily and for long sustained periods of operation. The Big Strong Hardie High Pressure pumps are used by leading manufacturers of fire control equipment. Specify a Hardie pump and get the maximum performance from the Fog Fire Fighter you buy.



You get really complete atomization and easy one-hand control with the Hardie Fog Fire Gun. Single trigger adjustment by a mere pressure of the fingers produces any desired spray from a fine true fog to a solid driving stream for long distance work. This Hardie Gun is built to last. Thoroughly tested it provides the maximum of efficiency and convenience.



THE HARDIE MFG. COMPANY

Los Angeles, Calif. Hudson, Mich. Portland, Oregon

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High Pressure **PUMPS AND FOG GUNS**

for Fog Fire Fighters

REAL PROTECTION AGAINST ASPHYXIAL DEATH

•

The E & J RESUSCITATOR INHALATOR and ASPIRATOR

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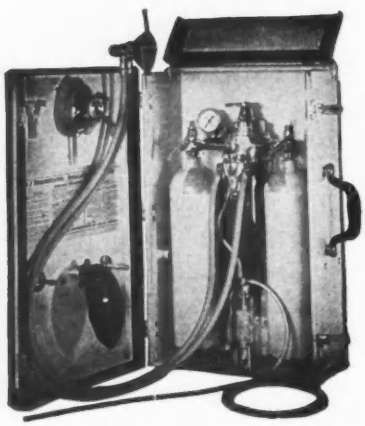


YOUR COMMUNITY NEEDS THIS SERVICE

The E & J Resuscitator enables you to treat EVERY case of Asphyxia safely and effectively. Severe burns, broken back, fractured ribs, internal injuries, pregnancy, etc., are no hindrance to successful and safe artificial respiration when you employ this modern automatic breathing machine. It is now being used in a large majority of the leading industrials, hospitals and fire departments.

YOUR RESCUE SERVICE IS NOT COMPLETE WITHOUT MECHANICAL RESUSCITATION — AND THIS MEANS "E & J" IF YOU WANT THE BEST

E & J MANUFACTURING CO.
GLENDALE, CALIFORNIA
Pioneers and Specialists in Mechanical Artificial Respiration

Drexel Bldg. Philadelphia	17 E. 42nd St. New York	2144 N. Springfield Ave. Chicago	581 Boylston St. Boston
530 Fernando St Pittsburgh	3032 W. 25th Ave. Denver	3900 Grandy Ave. Detroit	5005 Euclid Ave. Cleveland

World's Tallest Fire

Continued from page 8

Connect H.P. hydrant gauge to outlet facing most directly toward outside siamese connection of standpipe.
Place H.P. hydrant wrench on main valve operating nut and open valve fully (21 turns to right).
At command "Start Water," open independent valves supplying hose lines (16 turns to right). The one with H.P. hydrant gauge attached shall be opened first.

(*b*) Stretch two lines of 3-inch hose (2 lengths in each line) from H.P. hydrant to outside siamese connection of standpipe.
Connect female butt of one hose line to H.P. hydrant gauge and the female butt of the other hose line to uncapped outlet of hydrant.
Connect male butts of both hose lines to outside siamese connection of standpipe.

(*c*) Take one rolled up length of 2½-inch hose to 5th floor via interior stairway. Unroll length of 2½-inch hose and stretch it up stairway to 6th floor. Disconnect house line hose from hose outlet valve of standpipe at 5th floor.
Connect female butt of unrolled length of hose to outlet of standpipe at 5th floor.
One man remains at 5th floor to operate hose outlet valve of standpipe. (No water used. Man goes through the motions of opening valve when command is given to "Start Water.")

(*d*) Take controlling nozzle (2½ inch x 1¼ inch), axe, claw tool, lock breaker, 6-foot hook, combination punch and chisel to 6th floor via interior stairway.
Connect controlling nozzle to male butt of stretched length of hose at 6th floor.
Show hose line, with controlling nozzle fully connected, out 6th floor window. Give command "Start Water" (no water used).

Postwar plans for the up-to-date fire department may include the purchase of helicopters for use in rescue work. They have been used during the war by the Coast Guard for water rescues, hoisting a man from a boat by means of a sling operated from the rotor.

Such a thing would not only be good for reconnaisance work at fires, but in rescues from roofs and other inaccessible locations. They might also be used for ice rescues.

International

Fire Inspection

Continued from page 13

Fire Department Salesmanship.

Selling the fire department to the citizens of your community can easily be accomplished through good inspections. The thinking person will realize that service over and above ordinary duty is being rendered and they will reciprocate when the department needs help.

Prepare a sheet for each building, giving these important facts:

Name of Building.....
Location.....
Occupancy.....
Occupants.....
Owner.....Address.....
Manager.....Phone.....
Kind of Building (1-2-3 story — brick, frame, etc.).....
Kind of Roof.....
Heating Plant.....
Fuel.....
Ashes.....
Electrical Voltage.....
Hazards (Business, paint, welding, etc.).....
Hazards (standpipes, etc.).....
Value of Building.....Value of Contents.....
Insurance on Building.....Insurance on Contents.....

The information gathered through Fire Prevention Week inspections will provide material for discussion at fire meetings, and advance plans for rescue and fire fighting procedure can be agreed upon. The value of the knowledge of existing "man-traps" alone is well worth the time and effort given in making the inspections. Make your Fire Prevention Week inspections complete fire fighting and fire prevention surveys.

THIS WAS THE FOREST PRIMEVAL

Continued from page 11

This was not the first time Oregon's forests had been burned. One of the greatest forest fires of all time bared thousands of acres in Tillamook County in 1933. (See February, 1934 VOLUNTEER FIREMEN.) The present fire area is about two-thirds of the 1933 conflagration.

Both civilian and military authorities appreciated the fact that the nation at war could not afford to lose valuable stands of its best timber. Knowing that the enemy had been attempting to send incendiary balloons over the United states (see VF, July 1945), protection forces were all the more alert to safeguard American forests.

Forest fire damage is often difficult to estimate. It does not attract the headlines of the great city newspapers, as does an Empire State Building crash fire, but it is a type of damage which may be many times more serious than the loss of one or more pieces of urban property. The loss of a portion of our natural resources frequently has an adverse economic effect, lasting for decades.

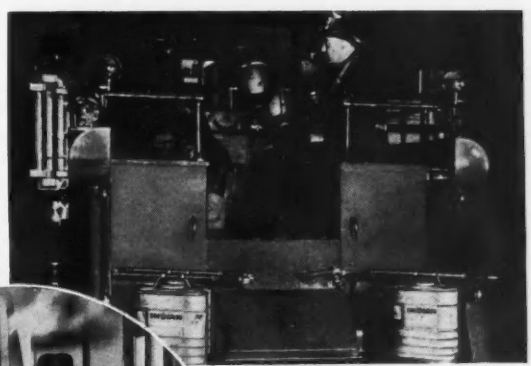
You Can Depend On It!

INDIAN FIRE PUMPS are always in the thick of the fight!

No matter how hot the fire fighting job, **INDIAN FIRE PUMPS** always give a good account of themselves. Roof fires, building fires, rubbish fires, grass fires, awning fires, room fires, and many others can be handled with **INDIAN FIRE PUMPS** alone — no need to lay hose. They have a different use every day.

Clear Water Does No Harm!

Clothing, house furnishings, etc., are not damaged by the stream of clear water from an **INDIAN FIRE PUMP.** No injurious chemicals used. Big rust proof tank holds 5 gals.



"Best Equipment Any Department Can Have!"

D. B. Smith & Co.
Utica, N. Y.

I would like to inform you that we have four **INDIAN FIRE PUMP** *tanks in our Department and think they are the best pieces of equipment any Department can have. For small trash and grass fires I would not want any better piece of equipment than* **INDIAN FIRE PUMPS.**

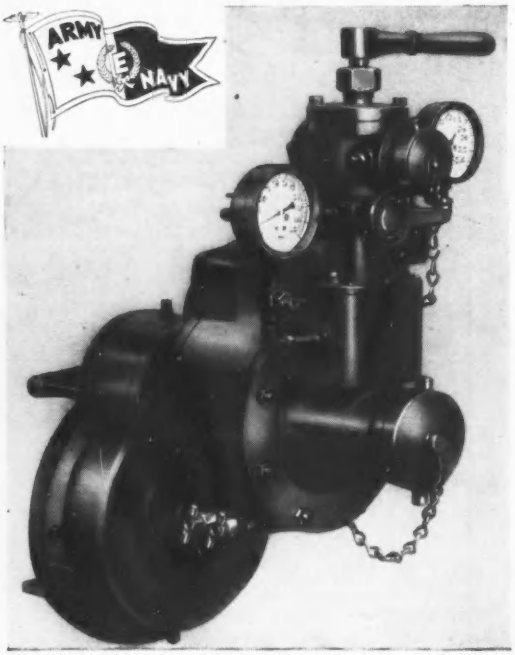
Carl W. Evans,
Fire Chief.

Write for Full Details

D. B. SMITH & CO., 411 Main St., UTICA 2, N.Y.

Pacific Coast Branches: Hercules Equipment & Rubber Co., 435 Brannan St., San Francisco, Cal.
Roy G. Davis Co., 617 East Third St., Los Angeles 13, Cal. Mill & Mine Supply Co., 2700 4th Avenue, South Seattle, Washington
Carco-Conwhit Co., 520 SW Pine Street, Portland 4, Ore. The Conwhit Co., Klamath Falls, Oregon

1000 Lbs. Pressure or 300 Gallons

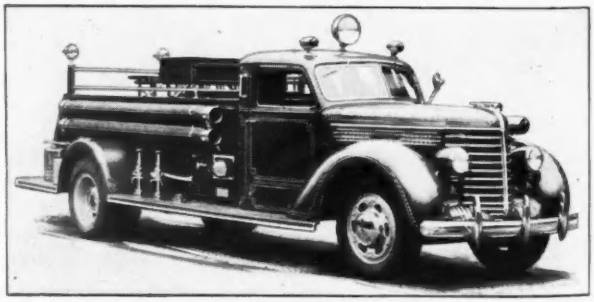


The NEW Front Mount Two Stage Centrifugal Champion is the ONLY Fire Pump That Gives You 300 Gallons for Standard Hose Lines or 1000 Lbs. for High Pressure Fog.

Weight only 180 lbs. Easily installed on any new truck chassis or Fire Truck now in service. Front mount gear drive off crankshaft. Because it is a centrifugal, the Champion will handle without injury, water with sand, dirt and gravel content which would damage the cylinders of piston pumps.

300 G.P.M. @ 150 LBS.

60 G.P.M. @ 880 LBS.



Civilian Trucks Available Without Priority

100 Page Catalog of Fire Equipment

FIRE TRUCKS — HIGH PRESSURE FOG PUMPS — STANDARD FIRE PUMPS — SKID PUMPERS — PORTABLE PUMPERS.

REQUEST YOUR CATALOG TODAY!

W. S. DARLEY & CO.

ESTABLISHED 1908
CHICAGO 12, ILL.

Records for Volunteer Departments

Members respond to request for fire record forms

REKINDLES *from* HOT TOPICS

Gentlemen:

I note in the July issue of VOLUNTEER FIREMEN a request by the secretary of the Relief Fire Dept., Front Royal, Virginia, for an up-to-date fire report form. I have sent sample copies of a new form we have just revised to that dept. Enclosed find sample copies for publication in VOLUNTEER FIREMEN to help other depts.

Respectfully yours,

FREDERICK J. STURDIVANT, *Secy.*
Fire Department, City of Clio,
Thetford and Vienna Townships, Mich.

-: Fire Department :-
CITY OF CLIO
THETFORD & VIENNA TOWNSHIPS

Copies are in triplicate. One copy to city or township clerk. One copy to local newspaper. One copy for department files.

Gentlemen:

I believe we have developed quite a complete system for the recording of fire calls in our city. Enclosed find a white and pink sheet headed Report of Fire Chief.

After every fire, one of these sheets is made out in duplicate. The white sheet is placed in a loose leaf binder with posts at the bottom of the sheet. This makes for easy reading to look up any information regarding a fire. The pink sheet goes to the city clerk for the city records.

Our loose leaf binder will last us for about ten years before it is filled up. All reports are typewritten, and at the end of the year our yearly report is made from these sheets, and a copy is placed in our record book.

Yours truly,

K. W. HAMMEL, *Chief,*
Owatonna Fire Department,
Owatonna, Minn.

OWATONNA FIRE DEPARTMENT
OWATONNA, MINNESOTA
REPORT OF FIRE CHIEF

Gentlemen:

Enclosed is a copy of the fire report used by the Farmingdale Fire Department.

It might be interesting to note that this report is used as follows:

One copy of the report is always attached to a clip board which is kept on the desk next to the telephone. The man on duty, after starting the horn blowing, fills in the location and the time on the form. He then hands the clip board to the first chauffeur to respond giving him the location verbally. The chauffeur takes the clip board to the fire and turns it over to the officer in charge. We find that this method serves two purposes: (1) The man riding alongside the chauffeur can check the location of the fire to make sure that they are responding to the proper location; (2) It provides the officer in charge with a pencil and paper to secure all of the required information.

All information is then transcribed to a standard fire record book.

For rescue calls, the second form is used. This report is only carried on the rescue truck.

Very truly yours,

CHARLES L. LINDROS, *Chief,*
Farmingdale Fire Department,
Farmingdale, Long Island, N. Y.

FARMINGDALE FIRE DEPARTMENT
FARMINGDALE L. I.

Gentlemen:

The Fire Department of Lower Merion Township consists of seven companies operated through a Central Alarm System located at headquarters in Ardmore, Pa. Each company is furnished with a book of forms in duplicate on which all runs by that company are recorded. The original comes to headquarters and the duplicate is retained by the company. The names of the men responding to the alarm are typed on the back of the form.

Very truly yours,

HARVEY W. BENSON, *Fire Marshal,*
Township Building,
Ardmore, Pa.

TOWNSHIP OF LOWER MERION
FIRE REPORT

Fire Losses For July

THE United States fire loss for July was $34,054,000, according to the National Board of Fire Underwriters. Canadian fire losses for the same period reported by the *Monetary Times* of Montreal, totaled $7,447,089.

HAND-IN-HAND WITH YOUR
TRAINED RESCUE SQUADS
FOR EFFECTIVE RESUSCITATION

The H·H INHALATOR

GOSHEN (IND.) FIRE DEPARTMENT RESCUE SQUAD WORKING WITH PRONE-PRESSURE ARTIFICIAL RESPIRATION—TO SAVE THE SECONDS THAT SAVE LIVES IN EMERGENCIES

In all cases of asphyxia, a single minute may mean the difference between life and death! That's why artificial respiration training is so vital—and that's why the famous H-H Inhalator fits in so outstandingly with the work of your rescue squads.

The Schaefer prone pressure method of artificial respiration should begin immediately and the H-H Inhalator is applied to the victim without disturbing the respiratory rhythm—without an instant's interruption to the established breathing cycle.

This instrument furnishes, *without pressure or suction,* the correct mixture of oxygen-carbon dioxide to stimulate normal breathing and effectively hasten recovery.

The successful application in Fire Departments throughout the country proves beyond question the H-H Inhalator's value. Write for Bulletin CA-9 and let us arrange a demonstration without obligation.

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District Representatives in Principal Cities
In Canada: MINE SAFETY APPLIANCES COMPANY OF CANADA, Ltd.
TORONTO, MONTREAL, VANCOUVER, CALGARY, NEW GLASGOW, N.S.

Study of Rural Fires in Vermont

THE University of Vermont and State Agricultural College at Burlington, Vermont, have issued Bulletin 524 entitled "Factors Affecting Farm Fire Losses in Vermont." This twenty-eight page bulletin by Prof. Thurston M. Adams, Assistant Agricultural Economist, is filled with data useful to all persons interested in rural fire protection. It is well illustrated with pictures of rural fires and farm fire hazards.

Vermont has had the worst rural fire loss of any state on a basis of farm population. The bulletin shows that fire destruction in Vermont has increased more rapidly on farms than on any other type of property with a total farm loss exceeding $700,000 annually. Nine-tenths of all Vermont farm fires have started in either the farm dwelling or in the principal barn. While two-thirds of the serious fires started in farm dwellings, such fires were more readily controlled than the barn fires. The latter represent one-fifth of the total number of fires but caused one-half of the total farm fire loss. The average barn fire loss was four times as great as the dwelling loss. A few of the dwelling fires spread to barns, but of every one hundred barn fires, fourteen spread to dwellings. The distance between the buildings was found to be an important factor in the amount of such exposure losses.

The average loss from fires occurring between midnight and 6:00 A.M. was nearly double that of fires occurring from 6:00 A.M. through noon. More than half of the Vermont farm fires were listed as "unknown cause." Many of these fires were thus listed because the fire had gained such headway before discovery that origin could not be determined. Two known causes stood out as responsible for most dwelling fires; fires from stoves and furnaces, and fires from defective chimneys. These causes represented two-thirds of the total damage to farm homes from known fire causes. Lightning caused the largest number of barn fires, and the use of kerosene and gasoline was the second leading cause of barn fires. Of course, most heating fires occurred during the winter whereas lightning fires were most frequent in June and July.

It was also found that fires occurred more frequently in mortgaged buildings than in buildings owned free and clear. The likelihood of a damaging fire occurring in any year was nearly half again as great in the case of mortgaged dwellings and barns. Only one-fourth of the properties owned by those of excellent financial standing were mortgaged.

Another interesting result of this study was the information that, although fires were not more frequent on farms on the

back roads, fire losses were higher. When farm property located on back roads was mortgaged, losses were materially higher. It was also of interest that tenant-occupied property had greater losses than property occupied by the owners. Buildings that were unpainted or badly in need of paint were no more likely to have a fire, but where fire occurred, the losses were greater.

Metal-roofed houses had the best record of all the dwellings included in the study. However the report states, "About two-fifths of the farm dwellings insured were covered with non-fireproof wood shingles. These may be ignited from flying sparks and when ignited may become flying brands and endanger other nearby property. The hazard is particularly great after long exposure to wind, rain, and sun, when wood shingles become curled and weathered." The record shows that the loss ratio for farm dwellings having wood shingles was $5.90 per $1,000 of insurance, as compared with $2.68 for metal roofs, $3.65 for slate roofs, and $4.35 for composition shingles.

The information on the availability of fire protection to the 22,000 farms included in the study showed the great importance of fire hydrants for protecting dwellings, but hydrants were less effective in protecting barns. Where farm dwellings and contents were protected by hydrants the loss ratio was $0.63 per $1,000 of insurance in force, as compared with $4.70 for dwellings without hydrant protection. Farms located in the villages even without hydrant protection had a better record than farms located in open country where there was more delay in the discovery of fire. Most of the farms are located outside of cities and villages. It was found that where farm dwellings are less than two miles from a fire department, the loss ratio was $3.59, as compared with a loss of $5.50 for dwellings more than eight miles from a fire department. Figures for farm barns within two miles of a motorized fire pumper were $3.72, as compared with $5.69 in instances where the farm was more than eight miles from a pumper.

West Virginia Publishes Bulletin on Industrial Fire Protection

DIRECTOR G. R. Spindler, Fire Service Extension Schools, West Virginia University, has issued an Extension Bulletin containing "Selected Papers on Industrial Fire Protection from the Proceedings of Annual West Virginia State Fire Schools." It is a book of 167 pages, containing twenty-two papers by leaders in the fire protection field dealing with various phases of industrial fire protection.

FEDERAL ELECTRIC COMPANY, INC.

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its POWER clears the way!

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Oscillating or Flashing Red Light
Single or Double Tone; Regular or Coaster with electric brake

The powerful deep tone of Federal Sirens assures protection for vehicles and pedestrian, because its warning penetrates far ahead, above other traffic noises. Instant starting, constant dependability, long, trouble-free service. Get details today.

PRECISION-MACHINED ROTOR

knife-edge ports
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heavy duty 6 or 12-volt motors

THIN SMOOTH BLADES

WRITE for FREE BULLETINS

Details, illustrations, prices, on this and other FEDERAL Sirens

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READY TO SERVE YOU!

Regular Fireman's Boots available ¾ length, reinforced instep, felt linings. New synthetic rubber, not reclaimed.

MIDWESTERN FAMOUS COMBINATION SUIT

Midwestern protective clothing is manufactured exclusively for professional firemen and policemen all over America. A great part of this protective clothing is used by government aid plants and is becoming more popular each year because of the rugged, extra durable materials used. The needs of our fighting forces come first, of course, but the same fine quality is available for you. Write your Midwestern representative for complete information and samples of material now available or write the factory direct.

OUTFIT NO. 101

Combination suit in either rubber or canvas. Can be bought separately. Detachable wool linings. Flexible elastic inner sleeve to keep out water, cold and sparks. Sturdy construction. Bunker Pants have reinforced crotch for pole sliding. Write today.

MIDWESTERN MFG. CO.

MACKINAW, ILLINOIS

Fyr - Fyter equipment has proven its value in preventing small fires from becoming disastrous through the loss of life and property. Recent catastrophic fires with terrific loss of life emphasizes the urgent need of fire protection. A complete line of Underwriters Laboratories Labeled Fire Extinguishers.

HELP SAVE LIVES AND PROPERTY

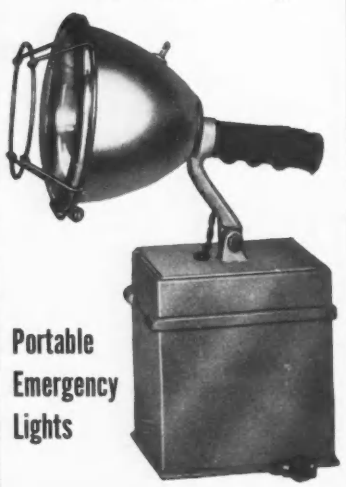
Get Fyr-Fyters for safety's sake. We advise and serve war production plants, public institutions, etc., immediately. Write us today regarding Fyr-Fyter equipment for your own protection.

THE FYR-FYTER CO.
Dept. 20
DAYTON 1, OHIO

ARMY NAVY WAR BONDS

Fyr-Fyter

"Half-Mile-Ray"



Portable Emergency Lights

STORAGE Battery and Dry Cell Outfits for all types of service. Also Spotlights for cab mounting on vehicles.

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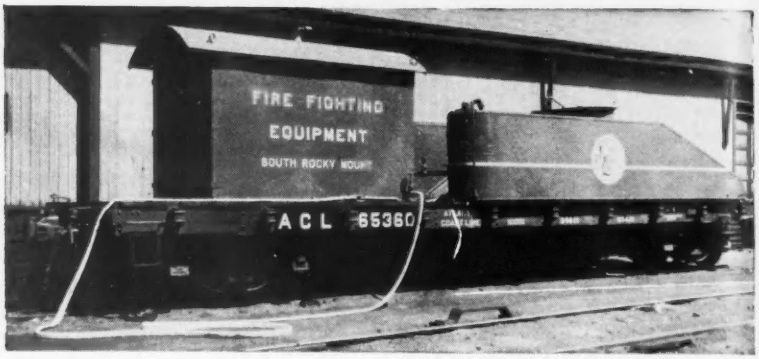
THE PORTABLE LIGHT CO., INC.
216 William St., New York 7, N. Y.



Mobile Fire Fighting Equipment

of the Atlantic Coast Line Railroad Company

Reprinted by permission from the *Atlantic Coast Line News*, July, 1945

"Our mechanical department recently has equipped two flat cars with fire fighting equipment, one for Rocky Mount, North Carolina, and one for Florence, South Carolina, the purpose of which is to provide mobile fire protection for shop plants, terminals or line of road. The car can be picked up quickly by a locomotive if and when needed to control fires of any type, particularly oil fires in the terminal or be assembled with the wrecking outfit if needed at any other location.

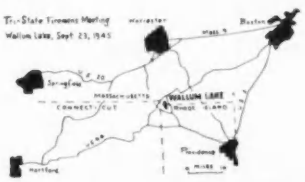
"The equipment consists of a locomotive tank of 3,000 gallons capacity, mounted on one end of a 40-ton flat car, for furnishing water supply; a small pump house of metal construction, 6 x 10 feet, which houses a gasoline-operated Marlon fire pump, having a capacity of 50 g.p.m., two 50-gallon drums of Phomaide supported on a double deck metal rack; 500 feet of 1½-inch c.r.l. hose; and one 10-foot length of 2½-inch laminated suction hose.

"Necessary pipe and fittings are provided together with a 1½-inch Phomaire play pipe and a 2-inch suction side Phomaide proportioner: The Phomaide is drawn from the drums into a bucket or other receptacle and poured into the suction side of the pump through a funnel. One gallon of Phomaide to nineteen gallons of water is pumped in liquid form to the play pipe where, through a jet and air vent arrangement, a heavy foam is generated at the rate of approximately 350 or 400 g.p.m. The pump, which is of the centrifugal type, operates at a pressure of about ninety pounds, and the solution is mixed by the action of the pump, no foam being formed until the nozzle is reached.

"A test unit, which was constructed in Florence, was demonstrated in the presence of a number of Atlantic Coast Line supervisors. Three different kinds of oil, or oil-soaked wood fires were quickly and satisfactorily snuffed out in a surprisingly short time."

Tri-State Meeting Planned for September

FIREMEN of the three southern New England States are planning their third annual Tri-State Training meeting at Wallum Lake near the junction of the three states. The meeting is to be held on Sunday, September 23. The program for 1945 includes demonstrations of ladder practices, relay pumper operations, use of fog streams, and fighting magnesium fires.



Organizations sponsoring the meeting are the Woonasquatucket Valley Firemen's League and the Northern Firemen's League of Rhode Island, The Windham and Tolland Counties Fire Chiefs' Association of Connecticut, and the Blackstone Valley Forestry Association of Massachusetts. Last September some 3,000 firemen attended the Wallum Lake meeting.

Ohio Short Course

A SHORT course on fire department administration will be held at Ohio State University, Columbus, from September 10 to 15.

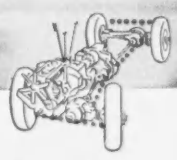
Note: Henry Giese, author of "Rural Fire Control," in the August VF, wished the following footnote printed in classifying his paper.

"Journal Paper No. J-1311, of the Iowa Agricultural Experiment Station, Ames, Iowa. Project No. 23."

EFFECTIVE PROTECTION

Against the MENACE OF FIRE!

TEST FIRE at an AIRCRAFT plant's airport simulates closely the severe conditions encountered when an airplane crashes and burns! Here hundreds of gallons of stored and flowing gasoline are burning over an area of 1500 square feet. The mock-up fuselage is engulfed in smoke and flame.



FWD TRUCKS

THE ORIGINAL EXCLUSIVE BUILDERS OF FOUR-WHEEL-DRIVE TRUCKS

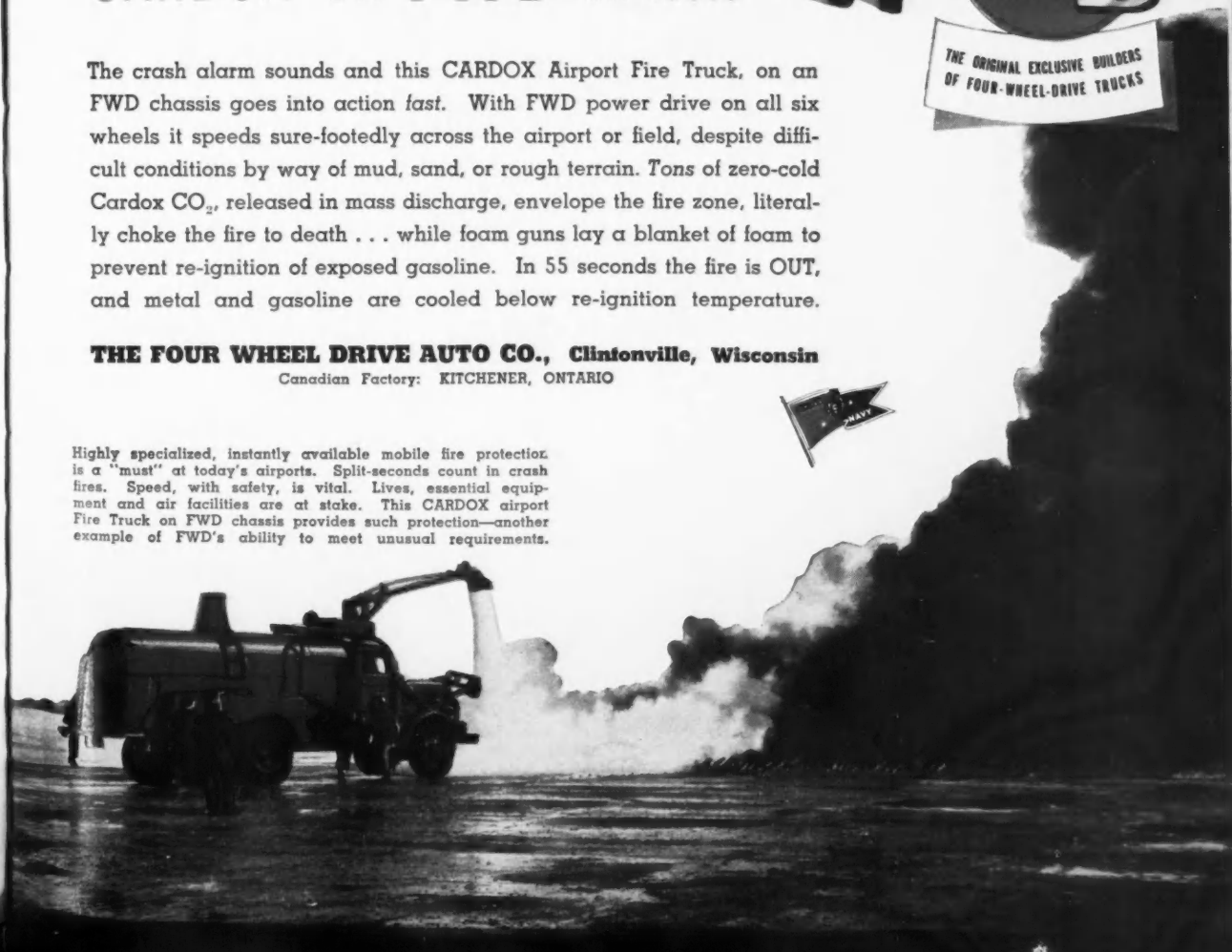
CARDOX AIRPORT FIRE TRUCK ON FWD CHASSIS

The crash alarm sounds and this CARDOX Airport Fire Truck, on an FWD chassis goes into action *fast.* With FWD power drive on all six wheels it speeds sure-footedly across the airport or field, despite difficult conditions by way of mud, sand, or rough terrain. *Tons* of zero-cold Cardox CO_2, released in mass discharge, envelope the fire zone, literally choke the fire to death . . . while foam guns lay a blanket of foam to prevent re-ignition of exposed gasoline. In 55 seconds the fire is OUT, and metal and gasoline are cooled below re-ignition temperature.

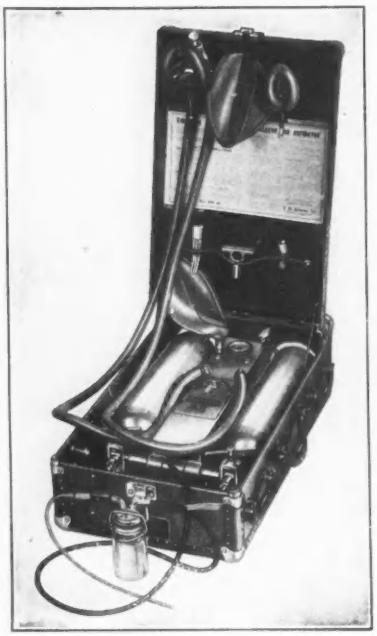
THE FOUR WHEEL DRIVE AUTO CO., Clintonville, Wisconsin

Canadian Factory: KITCHENER, ONTARIO

Highly specialized, instantly available mobile fire protection is a "must" at today's airports. Split-seconds count in crash fires. Speed, with safety, is vital. Lives, essential equipment and air facilities are at stake. This CARDOX airport Fire Truck on FWD chassis provides such protection—another example of FWD's ability to meet unusual requirements.



TAKE NO CHANCES WITH ASPHYXIA!



When breathing stops, on account of smoke suffocation, electric shock, gas poisoning, drowning, or other asphyxia, you should have the best life-saving apparatus available. You owe this to your men and to the citizens of your community. Investigate the

EMERSON RESUSCITATOR

•

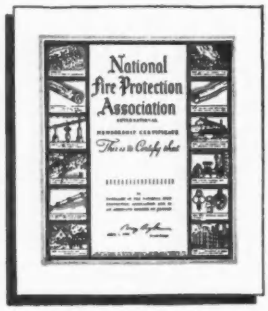
Write for literature or a demonstration.

J. H. EMERSON CO.
24 Cottage Park Ave., Cambridge, Mass.
Representatives in Principal Cities

N. F. P. A. Volunteer Firemen's Section
MEMBERSHIP REPORT

MEMBERSHIP PLAN

- Through the Volunteer Firemen's Section, fire companies may become members of the National Fire Protection Association. As a member fire company, the department receives at headquarters a set of all regular N.F.P.A. publications. This includes the Quarterly, the monthly News Letter, posters and bulletins.
- Each member fire company has the Volunteer Firemen magazine sent to the homes of ten men at no extra charge beyond the ten dollars annual dues paid by all associate members of the N.F.P.A. All other N.F.P.A. members pay ten dollars without the ten copies of Volunteer Firemen.
- If more than ten firemen want to receive Volunteer Firemen, an additional dollar should be sent for each extra fireman listed to receive the magazine. Individual subscriptions are not accepted from departments not members of the N.F.P.A.



Membership Certificate, illustrating the history of fire protection

TWELVE years ago this September issue, Volume One, Number One of the new VOLUNTEER FIREMEN was going to press.

In the past twelve years of publication, 1,240 volunteer fire companies have become members of the N.F.P.A. Volunteer Firemen's Section. Over 18,000 individual members read VF every month. With the return of firemen from the armed forces a further increase in membership is anticipated.

California leads this month, with seven new members out of the total twenty-one:

Ceres Fire Dept., Ceres, Calif.
Mt. View Fire Dept., Ceres, Calif.
Denair Fire Dept., Denair, Calif.
Keyes Fire Dept., Keyes, Calif.
Woodland Ave. Fire Dept., Modesto, Calif.
Salida Fire Dept., Salida, Calif.
Turlock Fire Dept., Turlock, Calif.
Paullina Fire Dept., Paullina, Iowa
Primghar Fire Dept., Primghar, Iowa
Pepperell Fire Co., Fall River, Mass.
Columbia Fire Dept., Columbia, Mo.
Beverly Fire Co. No. 1, Beverly, N. J.
Brookside Engine Co. No. 1, Brookside, N. J.
Enterprise Volunteer Fire Co., Trenton, N. J.
Cato Fire Dept., Cato, N. Y.
Conklin Volunteer Fire Co., No. 1, Inc., Conklin, N. Y.
Arcadia Hose Co. No. 2, Newark, N. Y.
New Brighton Volunteer Fire Dept., New Brighton, Pa.
Roslyn Fire Company No. 1, Roslyn, Pa.
Pearisburg Volunteer Fire Dept., Pearisburg, Va.
Burien Fire Dept., Burien, Wash.

Rochester Firemen Make Impressive Stop with High Pressure Fog

THE following letters to N.F.P.A. Chief Engineer Bond describe a remarkable stop made at a recent fire with new high pressure fog equipment.

Dear Mr. Bond:

Because of the argument now going on regarding the use of high pressure spray in fire department work, you may be interested in a case which I had the opportunity of witnessing under excellent circumstances here in Rochester July 18.

The fire started in a room on the northwest corner of the Cox Building in the sixth story.

This is a seven story brick walled, wood joisted, loft building of the Gay Nineties period and without sprinkler protection.

The room was occupied by a clothing concern as their pattern room and was approximately twenty feet square and sub-divided by a wood and glass partition about eight feet high. The fire presumably started from smoking just before the lunch hour and was going nicely when the president of the concern returned from lunch.

At the time of the arrival of the fire department, all windows but one in this room had broken out and flames were streaming out of all windows for eight or nine feet.

One aerial ladder was placed at the window, still unbroken, and a fireman went up this ladder with a spray nozzle, a second fireman helping him with the hose. This line was connected to the Rochester Fire Department's new spray unit which has a front mounted centrifugal pump.

While smaller, high pressure hose is ordinarily used, regular one and one-half inch war standard hose was used in this case before the arrival of a qualified officer. For this reason only two hundred pounds pressure was used.

The large metal aerial of the fire department was also brought up on the north wall of the building and a two and one-half inch line placed on this aerial having a convertible spray tip.

The upper sash of the remaining window on the west wall broke out just before the firemen on the first aerial reached the top, but he continued and broke a hole in the lower sash with the spray nozzle and then turned the spray nozzle on for perhaps five seconds and then turned it off momentarily. The result was an immediate reduction in the amount of flame to about one-third the former amount and the production of a

fair amount of steam. The fire continued burning in the window trim but was practically extinguished inside the room except for an area behind the half partition which could not be reached directly with the spray nozzle.

After a few seconds, the spray nozzle was turned on again for a longer time, and the remaining fire in the room pretty well calmed down after which the firemen climbed in and proceeded to clean up, alternately using the spray and solid streams from the spray nozzle.

At about this time, although the fire was pretty well under control, the two and one-half inch line was turned on, using a solid stream which apparently had no additional effect. At this point, spray pressure was increased to three hundred pounds and the line failed. Fire was held under control with the two and one-half inch line until the spray nozzle was again ready for the cleanup.

The fire did not spread beyond the room in which it originated although this one room was pretty well burned out. There was some water damage on lower floors, but on the whole, very little in view of the start which this fire had.

Chief Slattery and Chief Coates feel that if the regular high pressure line had been used, the fire would have been knocked down quicker. Even with the error, the fire was a convincing example of the effectiveness of fog on fires in ordinary combustibles.

It so happens that I was attending a meeting of the Industrial Management Council safety group on the third floor of the Chamber of Commerce building at the diagonally opposite corner of the street intersection from the fire building and thus had an excellent opportunity to see this fire from a balcony on the Chamber of Commerce building.

Very truly yours,
ALLEN L. COBB, *Safety Supervisor*,
Eastman Kodak Company.

Dear Mr. Bond:

The above letter was sent to me for my comments and I wish to add the following facts:

Mr. Cobb describes the fire quite thoroughly but I would like to add that the first officer to arrive was a deputy chief who immediately sounded a second alarm calling for four additional pumpers and two trucks and was evidently under the impression these companies would operate. However, Chief Slattery arrived soon afterward and directed that the spray nozzle be used with the results noted by Mr. Cobb.

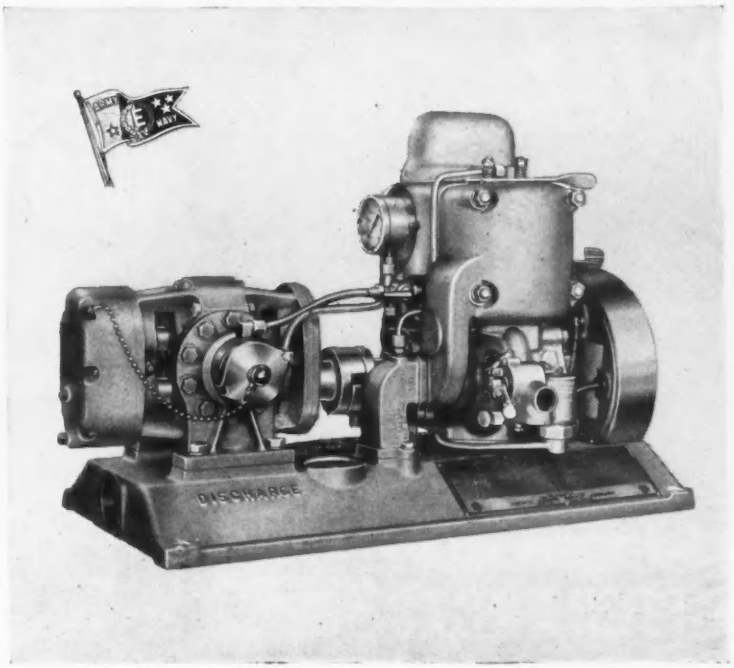
The hose that failed, which is mentioned in Mr. Cobb's letter, was O.C.D. 1½-inch hose. It was not the intention of Chief Slattery that this hose be used. We carry special high pressure hose on this unit. An acting officer of the unit misunderstood the order.

I might also add that this unit was put into service on the fourteenth of May 1945 and we have had several fires like the one mentioned, but of a smaller nature, in which the results have been remarkable. We are starting an educational campaign with the use of a 900-ft. film in technicolor with which we hope to instill more confidence and encourage the use of this type of equipment among the officers and members of the fire department.

Trusting this information will be of value to your organization, I am

Very truly yours,
THOMAS H. COATES,
Deputy Chief and Director of Fire College, City of Rochester

TYPE "Y"
Portable Pumper



While the major part of our manufacturing effort still is confined to production for the Navy, we once again are able to produce a limited quantity of our highly specialized fire-fighting Type "Y" Portable Pumpers for the forestry service, industrial plants and commercial shipping.

For weight and size, Pacific Marine Type "Y" is the most powerful portable pumper yet built. Base, 24 x 12 inches; height, 13 inches; net weight complete, ready to operate, 70 pounds.

CAPACITY

Pressure	100	125	150	175	200	225
Gallons per Minute	63	59	53	46	40	20

Manufactured by the
FIRE-FIGHTING EQUIPMENT DIVISION *of the*
PACIFIC MARINE SUPPLY COMPANY
SEATTLE, Washington

CIRCUL-AIR
FIRE HOSE DRYER

- Is easier to use
- Saves drying time
- Reduces hose stretch
- Prevents mildew and rot
- Improves building design
- Air-conditions as it dries

THE CIRCUL-AIR CORPORATION
6339 East Palmer Avenue
DETROIT 11, MICHIGAN

DISCHARGED VETERAN FLAGS

Honor your discharged service men with this official War Dept. flag. Discharged veterans' emblem in gold on white field, with red border. Interchangeable numbers below show number of your men honorably discharged. Illustrated price list FREE. Many men already on their way home; get YOUR flag up NOW. Write today for prices.

Permanent
ROLL of HONOR

A permanent plaque, with individual names in silver on gold-bordered permanent name plates. Beautiful walnut plaque with eagle and victory torches. Write for price list today.

U. S., Allied Flags, and Service Flags in all sizes
Write for prices

REGALIA MFG. CO.
Dept. 82, Rock Island, Ill.

MANUFACTURERS' ANNOUNCEMENTS

New "Foamite" Engine

American-LaFrance-Foamite Corp. of Elmira, N. Y., announces a new 40-gallon foam engine known as the "Foamite Challenger." According to statements of the manufacturer this engine produces 50 per cent more foam than any other 40-gallon foam engine ever designed. It delivers more than 450 gallons of foam in less than three minutes.

It has several scientifically designed features, outstanding among them is a metering device which is an important factor in the foam-making function. The "Challenger" is approved by both Underwriters' and Factory Mutual Laboratories, and is now in production.

•

Extinguisher Data File Folder Offered by General Detroit Corp.

Safety engineers, fire protection officials, and other executives concerned with fire protection are offered an instructive file folder by the General Detroit Corp. Designed to fit all standard file drawers, it is intended to hold information pertaining to fire extinguishers. Material printed on the inside of the folder (see

illustration) includes sketches of the five principal types of fire extinguishers, classes of fire for which each is recommended, Underwriters' Laboratories rating for each, and other data on the operation, recharging, and effectiveness of extinguishers. There is also included excerpts from the Underwriters' definitions of classes of fire and units of protection as applied to extinguishers.

The distribution of these folders is a further step in General's program of teaching the right protection for every fire hazard. A recent step in this program is the training of General's dealers and distributors as "Fire Protectioneers." Copies of the file folder may be secured by executives, without charge, by writing the General Detroit Corp., 2270 East Jefferson Ave., Detroit 7, Mich., or the General Pacific Corp., 1800 South Hooper St., Los Angeles 21, Calif.

•

DuGas Wheeled Extinguishers Given Higher Rating by Laboratories

Dugas Division of Ansul Chemical Co., Marinette, Wis., announces that its line of wheeled fire extinguishers has been given a substantially higher rating as a result of the new dual-stream nozzle which was recently developed. (See VOLUNTEER FIREMEN, June '45, p. 24.)

The improved ratings were established by the Factory Mutual Laboratories after observing extensive large-scale fire tests conducted at the Dugas test grounds. Based on open tank fires of gasoline, the new ratings are five times higher for the small model and ten times higher for the large model wheeled extinguishers.

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When you write to advertisers, please mention VOLUNTEER FIREMEN

Improved 3-Purpose Fire-Hose Nozzle by GRINNELL

FLAMEBUSTER

"KILLS OIL FIRES FAST"

FLAMEBUSTER permits application of water in the form best suited for quick control, according to the nature of the fire —

1. **Low Velocity Spray** . . . for extinguishing stubborn fires in light, flammable liquids. Projected at a wide angle by the unique Grinnell spray tip on a 4′ or 10′ applicator. The spreading cone of evenly distributed, fine spray, applied directly over blaze, puts out flames quickly, with minimum water consumption.
2. **High Velocity Spray** . . . for general fire fighting and for extinguishing fires in heavier oils by emulsifying the blazing oil with a driving spray of water, rendering it incapable of burning. Protects fireman approaching blaze.
3. **Solid Stream** . . . for rooting out deep seated fires and for projecting a volume of water a considerable distance. For fighting fires in electrical apparatus, a long-range, non-conducting spray is substituted for the solid stream.

Complete information is available without obligation. Write to Grinnell Company, Inc., Executive Offices, Providence 1, R. I. Branch offices in principal cities.

GRINNELL

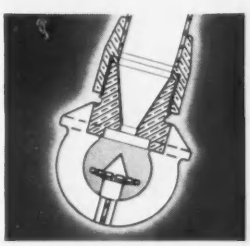
FOUNDED 1850

FLAMEBUSTER'S ADVANCED DESIGN

prevents clogging - simplifies maintenance

SINGLE LARGE ORIFICE IN LOW VELOCITY TIP

on end of the applicator breaks down the free flowing stream into finely divided spray without the use of small orifices – eliminates clogging.



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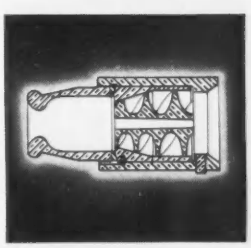
SIMPLIFIED SCROLL DESIGN IN HIGH VELOCITY TIP

Generates high velocity spray by a proved "whirl" principle that eliminates the disadvantages of small orifices.



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EASY DISASSEMBLY

Only tool required is a screw driver. Unique corrosion-proof rubber seat for ball valve is leak-proof and permits easy operation of valve at all working pressures.

GAMEWELL FIRE ALARM SYSTEMS

Eliminate Delay - - - Reduce Fire Losses

THE CONTROL UNIT VITAGUARD TYPE

This Unit contains all battery, operating, recording and testing equipment necessary for the operation of a system ranging from One to Forty alarm boxes. We supply complete directions for installing.

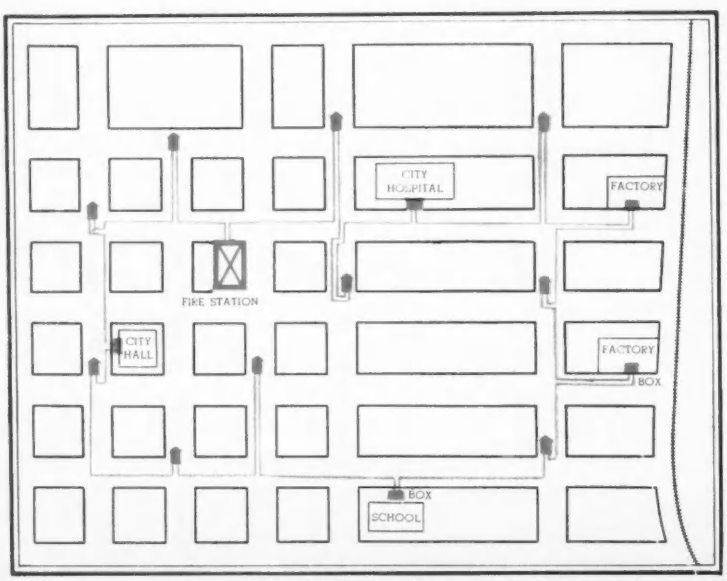
THE GAMEWELL SYSTEM for Volunteer Fire Departments provides the essential elements of accessibility, dependability and speed in giving alarms.

Public fire alarm boxes, quickly accessible, coupled with automatically responsive and coded public alarm equipment *eliminates delay by directing firemen to the scene of fire.*

Write for new Booklet
"It Can Happen Here"

GAMEWELL FIRE ALARM BOX VITAGUARD TYPE

With guard panel pulled forward exposing operating lever.



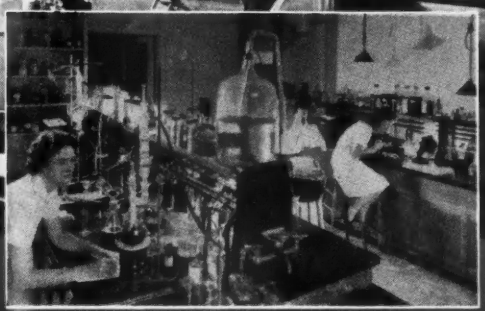
TYPICAL PLAN OF SYSTEM

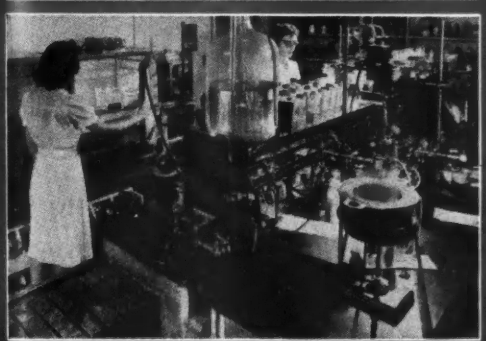
DIAPHONE HORN

Operated by compressed air. Has great carrying power, distinctive tone and coding ability. A reserve supply of compressed air is automatically maintained.

NOTE: *Your own public alarm may be utilized and automatically operated by the Vitaguard System.*

THE GAMEWELL COMPANY
Newton Upper Falls, Massachusetts
In Canada — NORTHERN ELECTRIC CO. LTD. — Montreal





SCIENCE OF SAVING

S O S means distress at sea—often fire. But National Foam's S O S spells Science Of Saving lives and property from fire.

National Foam's completely equipped laboratory, staffed by experts, developed Aer-O-Foam, that clinging, fire-smothering foam which forms a quick, easily-laid, gas-tight blanket of tough bubbles that snuffs out flames and prevents flashbacks.

Our Science Of Saving laboratory is at your disposal. It will reduce your fire hazards by providing the means to quickly extinguish hard-to-control fires. Anticipate your possible fire danger — call our S O S and install adequate protection *now*.

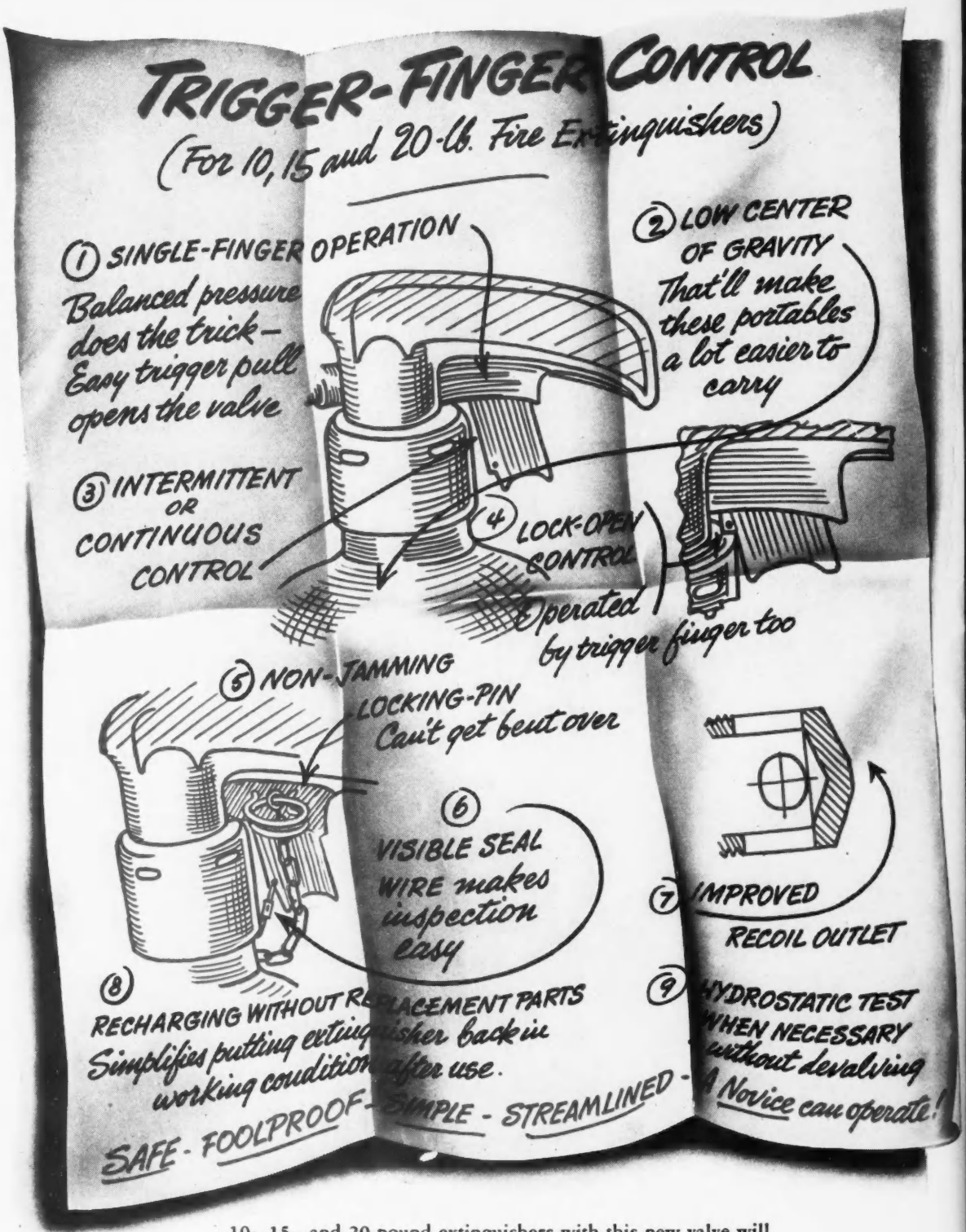
IN FIRE DEPARTMENT SERVICE

National Foam System has equipment especially designed for use of Fire Departments to meet all types of foam fire fighting requirements.

NATIONAL FOAM SYSTEM, INC.

SPECIALIZING IN FOAM FIRE PROTECTION

Packard Building, Philadelphia 2, Pa.


TRIGGER-FINGER CONTROL
(For 10, 15 and 20-lb. Fire Extinguishers)
(1) SINGLE-FINGER OPERATION
Balanced pressure does the trick – Easy trigger pull opens the valve
(2) LOW CENTER OF GRAVITY
That'll make these portables a lot easier to carry
(3) INTERMITTENT OR CONTINUOUS CONTROL
(4) LOCK-OPEN CONTROL
Operated by trigger finger too
(5) NON-JAMMING LOCKING-PIN
Can't get bent over
(6) VISIBLE SEAL WIRE makes inspection easy
(7) IMPROVED RECOIL OUTLET
(8) RECHARGING WITHOUT REPLACEMENT PARTS
Simplifies putting extinguisher back in working condition after use.
(9) HYDROSTATIC TEST WHEN NECESSARY without devalving
A Novice can operate!
SAFE - FOOLPROOF - SIMPLE - STREAMLINED -

10-, 15-, and 20-pound extinguishers with this new valve will be ready for delivery October 1st. Place your order now.

The word "Kidde" and the Kidde seal are trade-marks of Walter Kidde & Company, Inc.

Walter Kidde & Company, Inc. • 140 Cedar Street, New York 6, N. Y.

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